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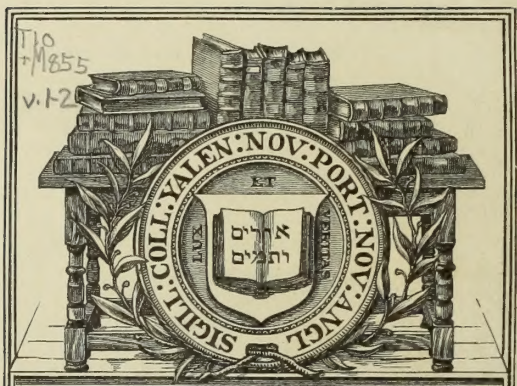

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INDEX TO THE MODERN HOSPITAL.

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The original articles are followed by the author's name, as are also all signed editorials and correspondence. The following abbreviations are used in the index: abs, abstracts; cor, correspondence; ed, editorial; illus, illustrated or illustrations; n, department of nursing; q, queries and answers.

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THE MODERN HOSPITAL

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HOSPITAL GROWTH MARKS DAWN OF NEW ERA.

Vast Increase In Number and Variety of Institutions Is Chief Factor In Reshaping Modern Society.

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THE tendency toward efficiency in institutions established for humanitarian purposes is most prominent at the present time. This has become especially apparent on all sides during the past few years in the hospital movement in this country. Men of excellent training, unusual ability, clear judgment, and force of character are giving an enormous amount of attention systematically to this work, and many very able men give all of their attention to it. In this manner it is quite naturally to be expected that the present generation will have the opportunity of observing the same phenomenal advancement in this field that has characterized the development of personal business enterprises in the past generation, a development the like of which the world has never before seen.

My attention has been called to a most interesting report of the meeting of the American Medical Association of the year 1873, which was compiled from replies to inquiries by the United States Bureau of Education, and which will serve as an illustration of the progress in the development of hospitals in this country. According to this report, there existed in this country forty years ago 149 hospitals, with 35,453 beds. Of these, 51, with 16,553 beds, were used for the care of insane patients; 43, with 12,322 beds, were used for the treatment of patients under the care of municipalities; and only 51, with 5,453 beds, for the care of patients who were not strictly public charges. Of the last class, 40 were church hospitals, with 4,923 beds, and 15 private hospitals, with 1,530 beds, and only one hospital, with 125 beds, was conducted by a corporation.

According to these statistics, 57 of these hospitals, with 19,044 beds, had been founded before 1853, or twenty years prior to the date on which these statistics were taken, which is exactly one-half of the time which has elapsed since these statistics were published. Of these 57 hospitals, with 19,044 beds, there were in use for the care of the insane, 25, with 8,919 beds; for the care of patients the charges of municipalities, 16, with 8,166 beds; and only 14, with 1,959 beds, were in use for patients who were not public charges. Of these there were 8 church hospitals, with 1,480 beds, and 6 private hospitals, with 479 beds. The difference in the twenty years is very great, the number of hospitals having nearly trebled and the capacity of all of the hospitals having nearly doubled. The relative proportion of increase of hospitals for the insane and their capacity maintained the same proportion that the general increase shows, but there was an increase of not quite 40 percent in the number of beds provided by municipalities for the care of the poor in general hospitals, while the number of beds provided by church hospitals and private hospitals had more than trebled during this period of twenty years. The number of hospital beds which were provided outside of municipal support was, however, still very small, and it must be remembered that almost all of these beds were occupied by the poor, who did not contribute much directly toward the support of these institutions.

To a very great extent, then, the activity of these institutions was limited to those who were direct charges of the public, either through the municipalities, or churches, or social organizations, and those who could not obtain proper care in their homes. The idea that the hospital is one of the necessary elements without which it is impossible to give to the patients the best possible care they can receive when they are seriously ill had not yet developed. It was only toward the end of the last century that this hospital idea came to be accepted as a fact. In many of the older cities of this country it has not quite been accepted as yet, and many of those who could well afford to have the best are still willing to go through sickness under quite unfavorable circumstances, with rather indifferent care, at their homes because they do not as yet appreciate the importance of this hospital movement. This is true especially at the present time in connection with one specialty which is more perfectly suited for hospital care than any other. I refer to the specialty of obstetrics. There can be no doubt that, from the standpoint of the mother and the child, as well as the other members of the family, it would be immeasurably better if all children were born in well-equipped and perfectly organized hospitals. In fact, the wife of the poorest workingman and her child receive better care in a good hospital than it is possible to give to the wealthiest mother in the finest mansion, unless the latter be equipped with a hospital department, such as has been repeatedly suggested by those especially interested in hospital construction. If this country should at some time produce an obstetrician with real powers of organization, such as we have seen especially in surgeons during the past quarter of a century, we may look forward to a greater revolution in this department than we have observed in the past years in surgical concentration and efficiency in hospitals.

In order to make the growth of the hospital movement apparent, it may be interesting to show the statistics of hospitals in the state of Illinois at the present time in comparison to those of forty years ago. It is proper to state that even at that time this state was relatively well supplied with hospitals. An analysis of the statistics of all the hospitals in the country at the present time would be too tedious and would not increase the clearness of the illustration. The state of Illinois contained in 1873, 16 hospitals, with 4,784 beds. Of these beds, 2,270 were employed in the care of insane patients, 1,277 were in municipal hospitals, 650 were contained in church hospitals, and 586 in private hospitals.

At the present time, forty years later, the state of Illinois has 204 hospitals, with 35,859 beds, divided as follows: 9 for the insane, with 13,755 beds; 65 conducted by municipalities, with 8,533 beds; 53 church hospitals, with 8,800 beds; 74 private hospitals, with 4,658 beds; and 3 hospitals used exclusively for employees of factories, with 133 beds. The total number of hospital beds in the state of Illinois today is consequently slightly greater than the number in the entire United States forty years ago.

During these forty years there have been established twelve new hospitals for every one in existence at that time. There are seven and one-half times as many beds in all the hospitals in this state, while the number of beds in hospitals for the care of the insane is only six times as large as the number in 1873. The number of beds in municipal hospitals has increased to six and two-thirds times the original number.

It is, however, in the hospitals to which patients go by choice, and not because of their poverty, in which there has been the greatest change. Where there were only 650 beds conducted by churches or religious orders in 1873, there are now 8,800 here, or thirteen and five-tenths times as many. In place of 15 private hospitals, with 1,530 beds, there are now 74 private hospitals, with 4,657 beds. The number of these hospitals has increased to nearly five times, while the number of beds has increased to only three times the original number.

These statistics must impress everyone who is actually interested with three important facts:

First, there is an enormous increase in the relative number of people who choose hospital care and at the same time choose the class of hospital that will give them the desired care.

Second, there is relatively an enormous amount of money invested in these institutions, which must continue to increase, because many of the present institutions are only temporary and must soon be reconstructed.

Third, any industry requiring such an enormous capital for its initial cost and which is so costly to maintain is well worth the careful thought of many of the ablest men in this country. While the growth of the hospital idea is a national feature, it will be quite worth while to give much thought to every detail of hospital organization, construction, and management, and to exchange these views when they have been thoroughly matured.

In order to make the importance of a comprehension of the hospital movement still more vivid, let us consider existing conditions. During the past forty years each year has seen the establishment of more than 15,000 new hospital beds, and

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at least an equal number of old hospitals have had to be reconstructed, so that it will be fair to judge that each year we will have to build new hospitals for at least 30,000 beds in this country. In a general way, it may be stated that for civilized countries it has been agreed by those who have studied the subject that there should be one hospital bed for every one hundred inhabitants, which would make the required number for the United States approximately one million (1,000,000) hospital beds. The number of beds in American hospitals of record, so far as it has been possible to determine this with available statistics, is 666,500, but undoubtedly these statistics do not contain nearly all of the hospital beds actually in use, because they do not contain any of the beds in the very large number of small private hospitals in all parts of this country.

In studying the original cost of construction, we find that this varies from $1,000 to $16,000 per bed. Taking these extremes for one year, the cost in one case would be thirty million dollars ($30,000,000), while in the other it would be four hundred and eighty million dollars ($480,000,000), or nearly half a billion dollars. Count a cost of $5,000 per bed, which is not at all unusual at the present time, and the difference will be $120,000,000 each year; and count this for a period of forty years, such as we have just considered, and the difference would amount to nearly five billion dollars. This sum, if properly invested, would be more than sufficient, for instance, to pay all of the expenses of all the universities now existing in this country for all time to come. These figures are given to impress those who are interested with the very great importance of this subject, and because of the fact that it is well worth the careful attention of the best minds in this country.

What has been said regarding the original cost of construction applies to a still greater extent to the question of maintenance, because this expense never ceases. As an illustration, we need but take two of the best known hospitals in this country. In one of these the actual cost of maintaining a bed is slightly less than $1 per day, while in the other it is $3.30 per day. The difference, then, per bed for the year would be $839.50. Applying this difference to each one of the one million beds which are required in this country, and you would have wasted the stupendous sum of $838,500,000 per year, a sum so vast that one can hardly grasp it. If we do this year after year, it must be apparent that the waste would be sufficient to bankrupt any community.

To those who have not studied this phase of hospital development it may seem unreasonable to consider both of these institutions equal in their efficiency so far as the care of the patients is concerned. As a matter of personal observation, I can state that both institutions are perfectly sanitary and clean, and in both the patients receive most excellent food and the best of care, but in one institution no unnecessary things are purchased on the one hand, and of the supplies that are purchased almost none are wasted. In the other institution a principle which has worked itself into the daily life of almost every member of the medical profession is the real cause of the high cost of maintenance. Every medical man has the feeling that when the life, or health, or care in sickness of the patient is concerned, all other things, and especially the cost of things, are of little or no importance, and as a result of this principle millions and billions of dollars are being expended in hospitals without any reference to what this expenditure will do toward real efficiency. In this way the institution is conducted without definite relation between cost of maintenance and results in efficiency.

It has always been so during the stage of development of every industry, but there is always a time when those who have the ability and the interest will come to the rescue, and then one may look for standardization, which will result not only in greater efficiency, but in true conservation of resources.

The modern hospital gives the public vastly more in the way of facilities for diagnosis, for furthering the progress of the case, with the smallest possible amount of discomfort. It provides for every form of apparatus for investigation during the entire period that the patient is confined to the institution. It provides facilities for all patients which could not have been commanded even by the very wealthiest persons only a quarter of a century ago, and it is but natural that such facilities must be expensive, but, with all of this, it is well not to lose sight of the fact that in the development and maintenance of these features there is great danger of enormous extravagance on the one side and hopeless waste on the other until the standardization of hospitals has been developed from the economical side by capable hospital specialists, and until those interested have been made familiar with this development through an advanced hospital journalism.

The oldest hospital in the world that is still conducted as a hospital is the famous Hotel Dieu, said to have been built by Laudry, Bishop of Paris, about 660 A. D. The oldest hospital that still exists under its original foundation is St. Bartholomew's, of London. It was established in the twelfth century by Rahere, a jester to King Henry I. He retired to a grant of land given to him by the king and established there the great hospital.

THE MODERN NAVAL HOSPITAL.

Four New Institutions Incorporating Best Features for Civil Hospitals.

By A. W. DUNBAR, M. D.
SURGEON U. S. NAVY, SUPERINTENDENT WASHINGTON (D. C.) NAVAL HOSPITAL.

THE *raison d'etre* of the naval hospital as well as of the civil hospital is primarily humanitarian, but, as the latter has come to be recognized as of economic value to the commonwealth in the restoration of the wage earner to his work, so has the former a military value in restoration of militant units to the firing line. From a strictly utilitarian point of view, this is the main, if not the sole, function of the naval hospital.

The incurable has no place in the naval service, and is discharged when it may humanely be done, as the liberal federal pension laws provide for these cases when the disability is incurred in the line of duty.

In our hospitals no provision is made for the admission of women and children, but otherwise the service is similar to that of a civil general hospital. It may, however, be noted that cases are admitted which in civil life would be treated as out-patients, and again others are retained longer than would occur outside the service for the reason that aboard ship a man must be either sick or "fit for duty," and the latter means any work from shoveling coal to pulling on an oar or lifting a 12-inch shell. These facts should always be borne in mind in comparing the service hospital statistics with results in civil life.

Up to about 1890 the naval hospitals were about in the condition they were at the close of the civil war, except for the deterioration incident to age. The navy was small, its importance unappreciated by a country wearied of war, and the medical department, like the rest of the service, suffered from neglect.

In the early nineties this service lethargy was passing away, and some attempt was made to modernize the hospitals, which, while massively built, were antiquated in design and deficient in equipment. At the outbreak of the Spanish-American War the New York hospital was the only one with a modern equipment.

In 1900 a new era commenced in the naval hospital service, and since that date ten hospitals have been designed and constructed at the following stations: Portsmouth, N. H.; Boston, Mass.; Newport, R. I.; Washington, D. C.; Naval Academy, Annapolis, Md.; North Chicago, Ill.; Las Animas, Colo.; Puget Sound, Wash.; Cavite, P. I., and Guam, Mariana Islands. The Norfolk and Philadelphia hospitals have been practically reconstructed, and extensive additions have been made to the Yokohama (Japan) and the Mare Island (California) hospitals. With the completion of the one now under contract to be erected at the naval station at Pearl Harbor, Hawaii, every important naval station will be provided with a modern, well-equipped hospital.

This extensive building program, while it cannot be said to have evolved any unique plan, has resulted in the adoption of what may be termed

PLATE 1.

the type naval hospital. It may be safely stated that, as a rule, the civil hospital is erected to meet a known demand for bed capacity, and no provision is made for an increase in size. In the military hospital, on the contrary, provision must be made for an extension of the bed capacity corresponding to an increase in the importance of the station where situated or to meet the exigencies of war. This renders it necessary that the plan selected be one which lends itself readily to expansion in ward space, and, as the administrative features are less readily extemporized than are the wards, these parts, including the commissary is excessive and maintenance unduly great; also, any considerable increase in size would produce a cumbersome institution for administration.

The plan next adopted is the one above referred to as the typical naval hospital design. Four hospitals have been erected on this plan—namely, those at Portsmouth (N. H.), Boston, Newport, and Bremerton (Wash.)—and the main features are retained in the one at the training station near Chicago and at Pearl Harbor, Hawaii.

The complete institution under this plan includes, besides the main hospital of 134 beds, a contagious disease hospital of 40 beds; a power,

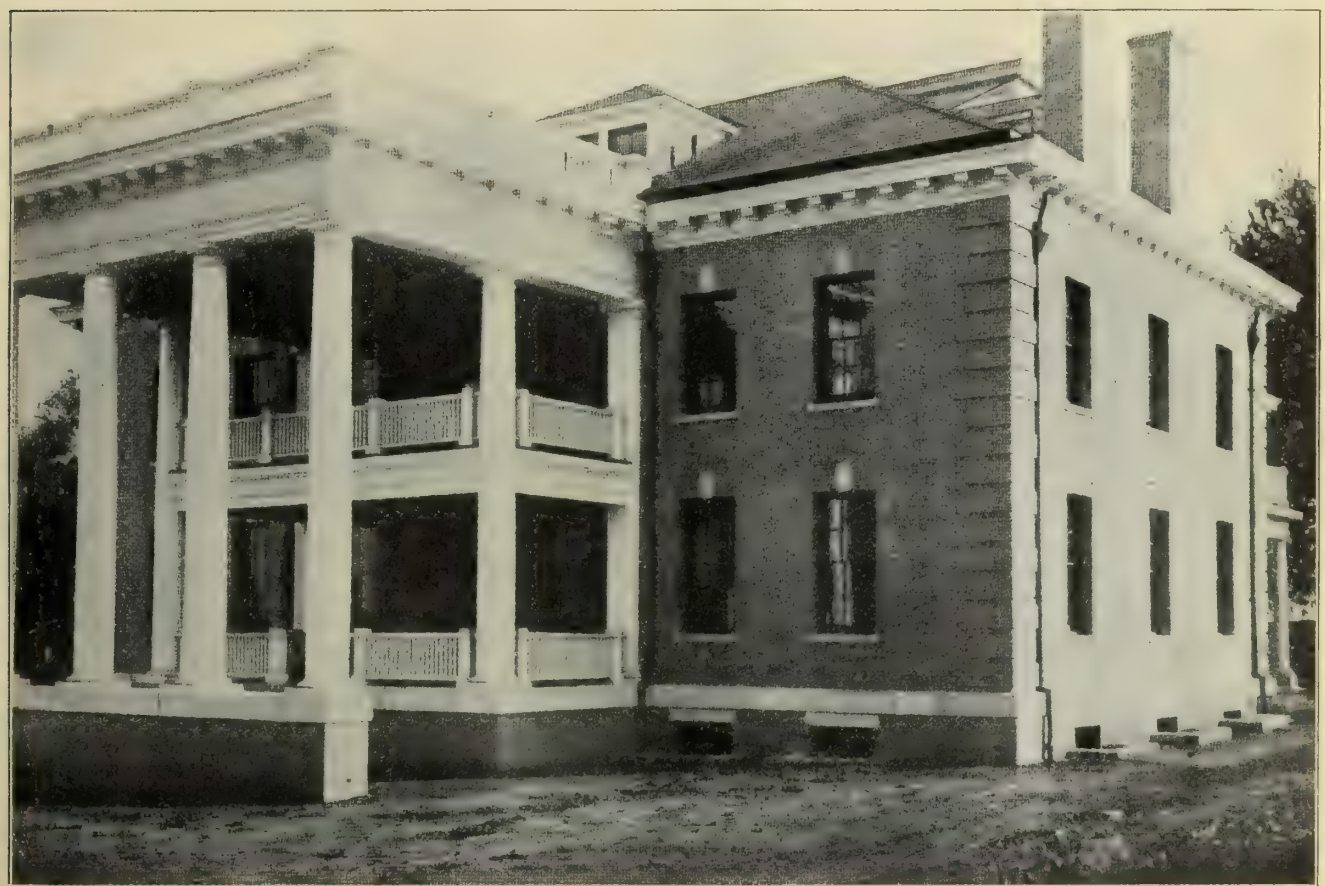


PLATE 2.

and operative departments, should be adequate for the enlarged institution. Fortunately, as a rule, the hospital reservations are ample in size, and economy in ground space by the erection of lofty structures is not demanded.

In the case of the Washington (formerly the Naval Medical School) Hospital and the one at the Naval Academy the single-story detached pavilion plan was selected, the wards being connected with a three-story administration building by an extensive system of corridors. The wards are small (sixteen beds) and, while these hospitals have many attractive features, the cost per bed laundry, and disinfecting plant; officers' quarters, nurses' quarters (where quarters elsewhere are not available); a stable and green-house. The general arrangement of the main hospital resembles a "T," the central administration portion, with the lateral wings, forming the top, the subsistence and operating building, with the solarium and connecting corridor to a rear extension of the main part, forming the vertical stem of the letter. The total frontage is 383 feet; of the administration building, 68 feet 8 inches; of the wards, 123 feet 6 inches. The wards, four in number, are in the wings, connected with the administration

building by solarium corridors. The administrative parts are sufficiently large to serve an extension of the ward space. Additional wards can be erected in the rear of and parallel with each wing, there being sufficient room for two additional wings on each side, thus increasing the total ward capacity, without serious crowding, to 500 beds. These wards would have connecting corridors to the central solarium and the central office building.

The arrangement of the remaining buildings will vary according to the space available and to topographical conditions. As a rule, the power plant and stable will be well to the rear of the main hospital, the contagious building to the leeward as regards the prevailing wind, and the staff quarters in line on one side and facing the hospital grounds. The orientation of these buildings is such as to give the maximum exposure of all parts to the sun and a northerly one to the operating department. The construction is fireproof; of structural framework; brick walls, the exterior walls a dark red; the floors and upper story ceiling re-enforced concrete; the roof of slate.

The interior is simple in finish, free from unnecessary projections, and all corners are rounded to facilitate cleaning. Partitions are of brick or terra-cotta tiles. The plastering throughout is hard plaster, that used in the operating suite, toilets, baths, disinfecting, mortuary and autopsy rooms, as well as in rooms receiving hard usage, such as the kitchens, cleaning-gear, and recreation rooms, etc., being Keene's cement plaster. Plastering elsewhere is King's Windsor cement, a hard plaster nearly as hard as Keene's. The first or scratch coat is mixed in the proportions of 1 part of Windsor cement to 1½ parts of sand. The second or brown coat is mixed in the proportions of 1 part of Windsor cement to 2½ parts of sand. The third or finish coat is mixed in the proportions of 1 part of lime to 2 parts of Windsor superfine cement plaster. The preceding three coats are used on all lathed surfaces, and the first or scratch coat is omitted from brick, terra-cotta, and concrete surfaces. The finished coat of plaster has a certain amount of lime added to give uniformity in color, but not enough to appreciably soften the plaster. King's Windsor cement plaster without lime mottles badly. The walls, where a wainscot is not provided, are painted a light buff color. A cast-iron base has been used in these hospitals, and is found to be reasonable in cost and less likely to be broken than the tiling. It is set flush with the floor and walls, and is treated as follows: one coat of red lead and oil as a

PLATE 3.

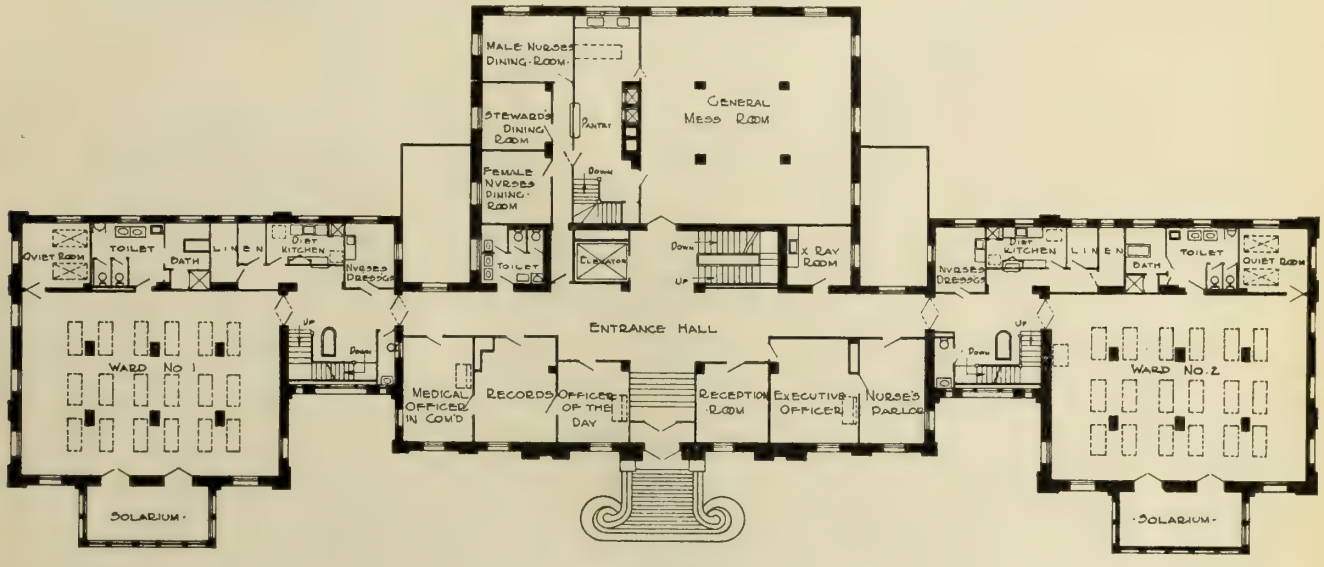
primer, two coats of lead and oil, and then one of spar varnish colored slightly. The operating suite has a 7-foot wainscot of gray Tennessee marble, and the floors are of tiles of the same material laid on nonstaining Portland cement on concrete. Gray Tennessee marble was selected on account of its durability, hardness, and fineness of texture, rendering possible the making of close joints, and also largely on account of its resistance to the chemicals in use in the operating room. White marble is less resistant to chemicals, while glass or opalite is likely to chip or spall, and is slippery. Interior doors are flush surface and the woodwork devoid of unnecessary moldings. The muntins and window sashes are especially designed to dispense with as many fillets as is possible.

satisfactory, the composition floor will probably be developed into the ideal material for institutional use.

The interior woodwork, except oak doors, has three coats of Pratt & Lambert's public building varnish rubbed to a dull finish in addition to a priming coat of shellac.

Exterior woodwork, except oak doors, has three coats of lead and oil paint, colored dark-green for pine doors, sashes, and their frames, and colored cream-white for all other exterior work.

The plaster walls in operating suite, in mortuary, autopsy, and disinfecting rooms in basement, and in baths, toilets, diet kitchens, nurses' and dressing rooms above basement have one coat of sizing, one coat of lead and oil, and two coats of Ripolin enamel, with the final coat tinted and



FIRST FLOOR PLAN.

UNITED STATES NAVAL HOSPITAL, GREAT LAKES ILL

PLATE 4.

The floors in the main kitchen, pantries, nurses' dressing rooms, toilets, the mortuary, and morgue are finished in 3-inch hexagonal vitreous tiles selected on account of their durability and hardness.

Several modern civil hospitals were visited to determine what material is best adapted for flooring in the wards, rooms generally, and the corridors, and as a result long-leaf yellow pine, quarter-sawed, heart-stuff, was selected as being reasonable in cost, remaining well in place and taking a fine finish. While maple is harder, it has a tendency to curl; terrazzo is suitable over small areas only, as it has a tendency to crack, is noisy, and tiring to the feet. Linoleum well laid and turned up at the walls to form a cove is very satisfactory, but is expensive, and if poorly laid tends to buckle and open at the joints. While not yet entirely

rubbed to a dull finish. The woodwork, except doors, in these rooms has a coat of shellac as a primer, one coat of lead and oil, and three coats of Ripolin enamel, with final coat tinted and rubbed to a dull finish. The metal doors in operating suite have a mineral primer and two coats of white japan baked on and rubbed to a dull finish. The wood doors in these rooms are varnished as above noted for interior woodwork.

Basement walls and ceilings, not otherwise treated and except where they are face brick, and walls and ceilings in all cleaning-gear closets are painted with two coats of Keystona. All surfaces in x-ray and photography rooms have three coats of dull black paint. Wood floors and wood stairs are finished with three coats of Boyle's old English floor wax.

In the basement beneath the central building

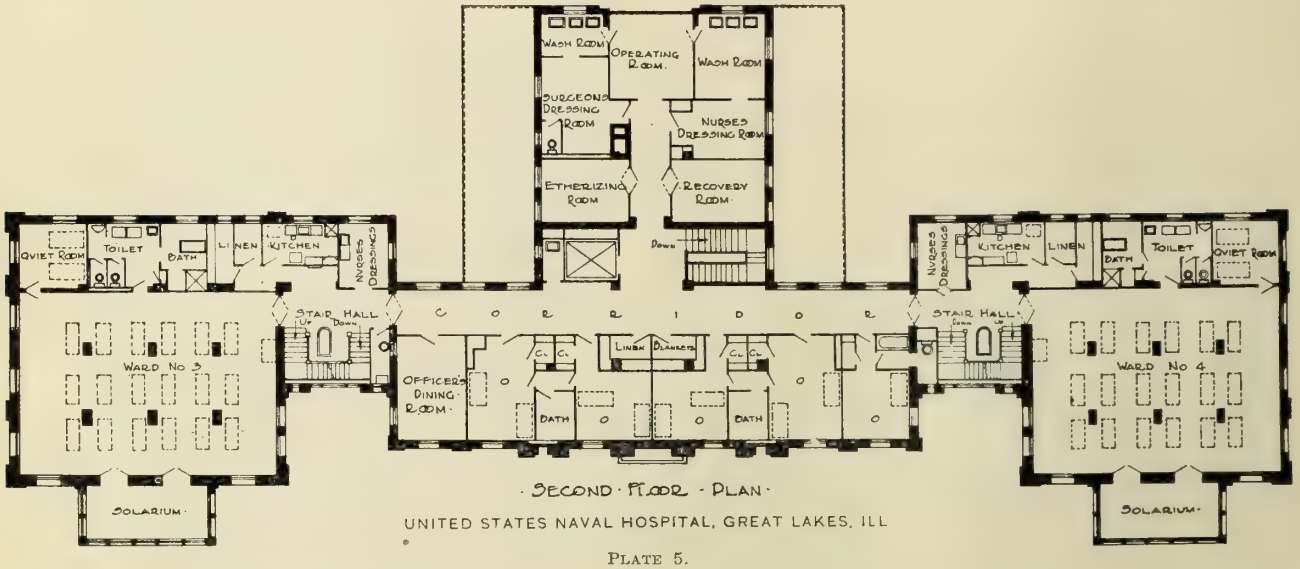
are three dining rooms for attendants, serving rooms, the heater and fan room, the elevator shaft and machinery, and a closet for cleaning gear. This latter room and similar ones elsewhere have special provisions for the sterilization of mops and utensils used in cleaning. The dispensary, with an adjoining storeroom, is located in the front part of this basement.

The basement of the right wing contains a recreation room, a library, a hydrotherapeutic room with an adjoining lounging room, a serving room with a dumb-waiter to the wards above, a linen room, a bag and hammock, and other storerooms.

In the basement of the left wing at the extreme end is a mortuary and an autopsy room completely tiled and drained. The entrance to these rooms is from the exterior of the building. Adjacent to the above are cells for prisoners and the

for rooms for general dressings and for autopsy, intensive globes No. 1-9. The height of wall brackets is 7 feet above floor; of ceiling lights, 8 feet 6 inches to globes; of operating room lights and lights in rooms for general dressings and minor surgery, 8 feet to globes. Fixtures are of drawn brass, simple in design, and of substantial character. The wall brackets finish closer to the walls than the usual fixture and the asymmetrical globe throws the light out into the room. All fixtures are arranged for the use of Tungsten lights.

The main entrance to the hospital on the first floor of the administrative portion is reached by broad granite steps, on each side of which is an ornamental pedestal light. The area at the top of the steps is tiled and has Luxfer prisms inserted to give light to the basement rooms below.



SECOND FLOOR PLAN

UNITED STATES NAVAL HOSPITAL, GREAT LAKES, ILL

PLATE 5.

insane, for whom are provided special toilets and lavatories, the whole being separated from other parts of the hospital by strong wire netting. The remaining space is occupied by the x-ray, developing, disinfecting, and storerooms. In the rear, at the junction of these rooms with the main building, is a room to receive the soiled linen from the wards above through a chute. This room has an exterior door only, to prevent possible infection of the basement and to afford easy access to the infected end of the disinfecting plant. It was the intention that all soiled linen should be packed in canvas bags before they are dropped down the chutes. In the illumination holophane globes are used to throw the light and distribute it as required.

For wall brackets, asymmetrical globes No. 295 were chosen; for ceiling fixtures for general use, intensive globes No. E-3363; for operating rooms,

Access to the entrance corridor is through two double swing doors and a rubber-tiled vestibule. From the entrance, corridors extend to the solarium and subsistence building in the rear and laterally to the wards. Forward of the latter, to the right of the entrance, are the offices for the medical officer commanding and the record clerks; to the left those for the officer of the day and the executive surgeon. In the rear extension is the board or examination room; a room for treatment of diseases of the eye, ear, and throat; the laboratory, and quarters for a junior medical officer or the officer on duty. An alcove adjacent to the elevator serves as a reception room.

The second and third floors are assigned to sick officers, for whom fifteen rooms are provided. As a rule there are lavatories between each two rooms. The officers' dining room is on the second floor, and a large recreation room is situated on

the third floor. Serving and dressing rooms are provided on both floors.

The subsistence-operating building is 72 feet to the rear of the central executive portion, and connected on the basement and first and second floors by corridors inclosed by glass, which are expanded at the middle portion into solaria. The third-floor corridor communicates with the main building, and, aside from the canopy over the central portion, is entirely open for the treatment of cases requiring outdoor living. In the basement of this building is the main kitchen, cold storage room, storerooms, serving room, and a blower room. The kitchen is large, completely tiled, and supplied with the most improved culinary appliances. The diets are transferred to the general mess room above by a dumb-waiter and to the serving room in the basement by metal food carriages.

On the first floor are the main mess room for the convalescents and nursing force, a pantry, and dish-washing room. The latter is equipped with a mechanical dish washer.

The second floor is occupied by the operating department, the arrangement of which is varied in four hospitals to give the most desirable exposure to the operating rooms. In addition to the general operating room are provided a general dressing or minor surgery room, a cystoscopic room, surgeons' dressing and preparation rooms, nurses' preparation room, sterilizing, anesthetizing, and recovery room. The operating rooms have lateral and ceiling sky-lights. Artificial light is provided by five 50-candlepower electric lights with holophane reflectors, so arranged as to prevent the casting of shadows on the field of operation.

The equipment is complete in every detail; the plumbing is of the latest design; all faucets and drains are provided with knee-action valves. The drains can be flushed with boiling water. All plumbing fixtures and fittings throughout were chosen with especial care, and are of simple, durable patterns. The exposed metal fittings are of "red metal" composed of not less than 70 percent of copper. Red metal can be polished and worn indefinitely and still show the same color. Nickel plate will sooner or later wear off in places, leaving unsightly spots. Volume valves are used on all lavatories, sinks, and baths to control the flow of water, in addition to the usual faucets, to prevent spattering walls and floors by the full, quick opening of the faucets.

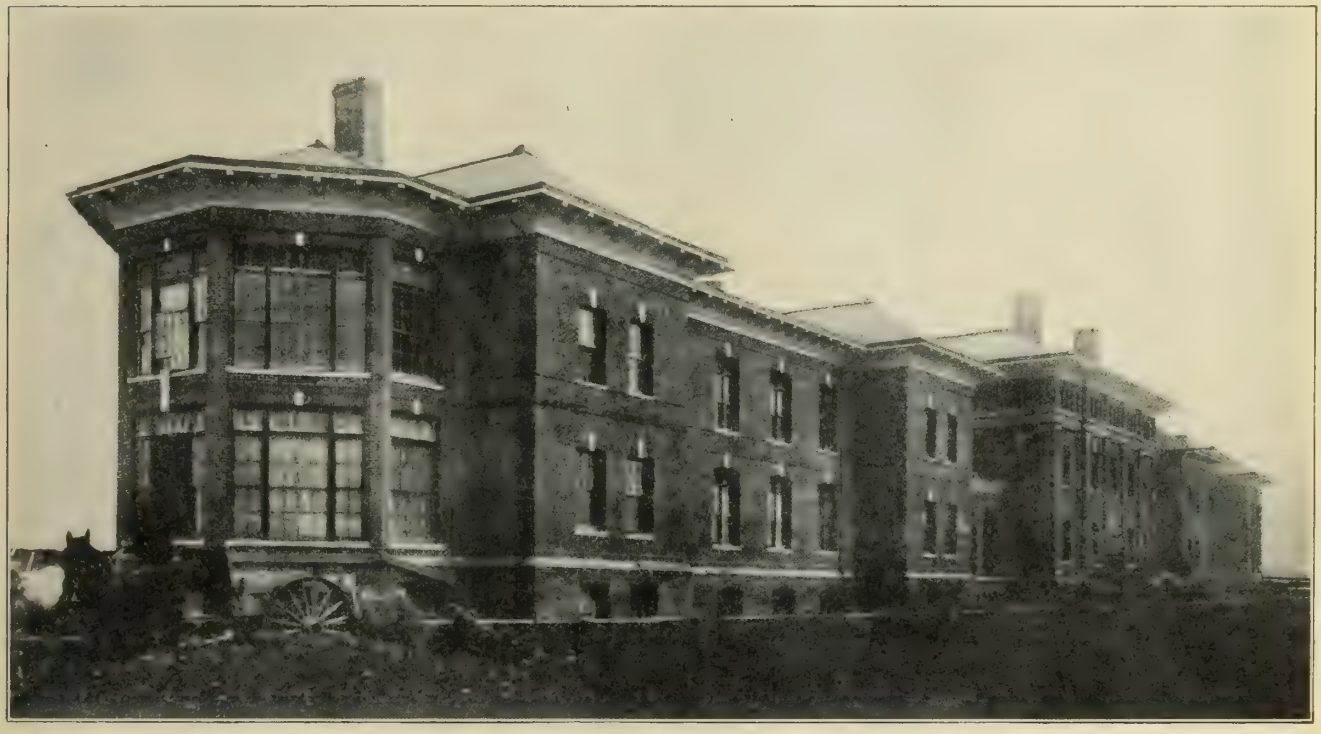


PLATE 6.

The wards have a normal capacity of 26 beds, allowing 92 square feet of floor and 1,250 cubic feet of air space per patient. In addition there are four one-bed quiet rooms connected with each ward, located two on each side of the ward near its outer end. These rooms have double hollow tile partitions and double doors to exclude sound.

The solarium is at the outer end of the ward, embracing its entire width, and is inclosed in glass on three sides. Additional solarium space

is provided by a loggia between the ward and the administration building in front of the corridor. The wards are bright, having 14.8 square feet of glass per bed.

The utility rooms are at the inner end of the ward, opening on the entrance hall. A fireplace at the outer end of the ward assists in ventilation and adds to the cheerfulness.

In accordance with modern practice, two systems of heating are employed—direct and indirect from a hot-water system and indirect by means of the plenum system of ventilation. The hot-water system is calculated to maintain a temperature of 70° F. in zero weather. Direct radiators are provided for the wards, and direct-indirect radiation for rooms not provided with forced ventilation.

The mechanical combined heating and ventilation plant consists of two units—one supplying 3,000 cubic feet of washed air per minute to the subsistence and operating building, the other supplying 3,400 cubic feet per minute to the administration building and wards. The latter supply is passed through a fine screen to remove debris, but is not passed through a water air washer. The air is passed over tempering steam coils, which heat the air, when required, to 45° before passing to the fan; there it is passed over a reheating coil and the temperature raised to 75° F.

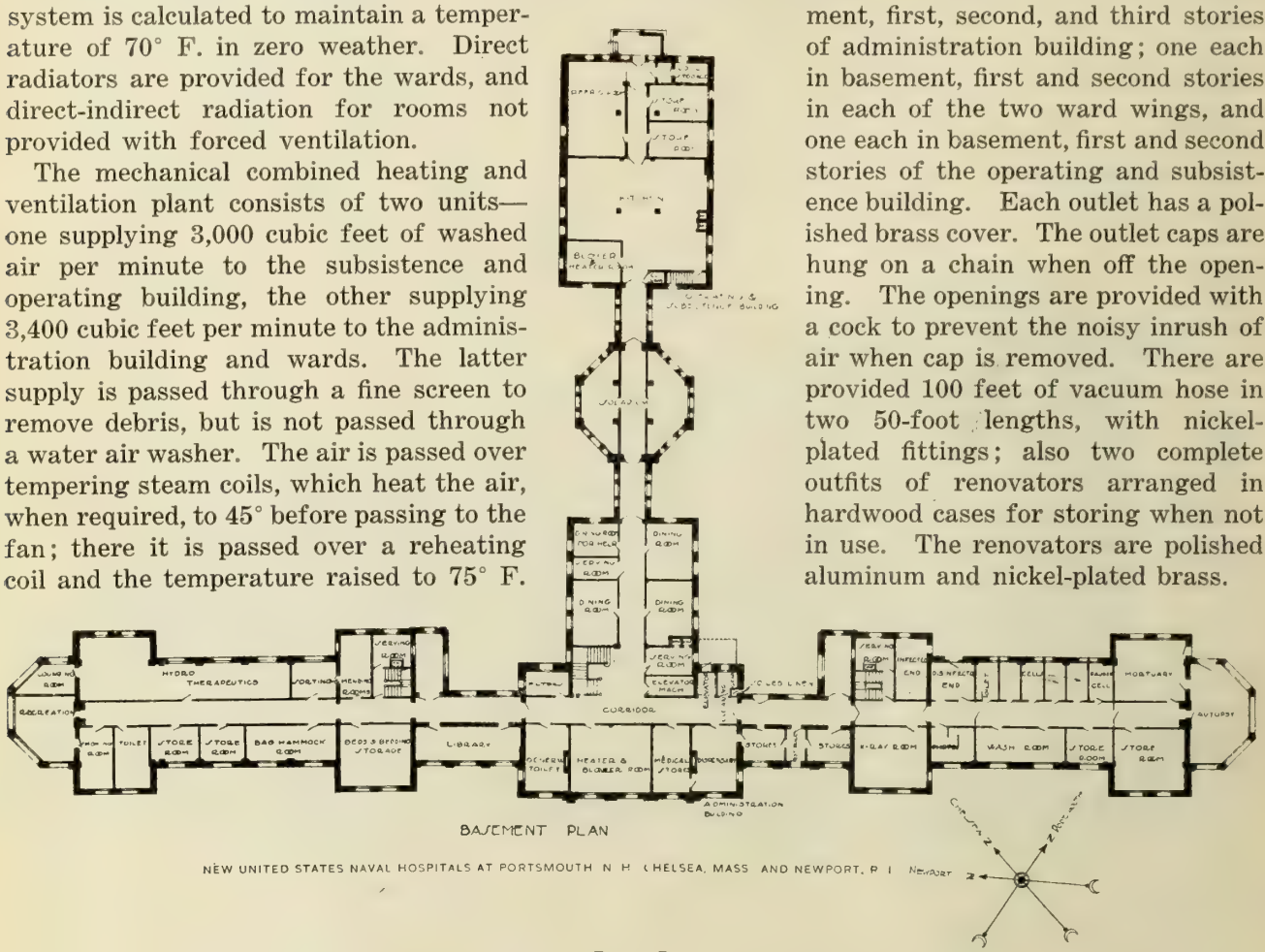


PLATE 7.

The regulation of the heating coils and also of the damper to a by-pass allowing admixture of cold air with the heated air is under thermostatic control from the living spaces. The hot-air ducts open into the wards 8 feet above the floor. Four exhaust blowers, located in the attic over the wards, administration building, and operating building, are connected by ducts with registers 1 foot above the baseboard. By this method the heated fresh air enters high up and becomes disseminated, cools, and gradually falls, passing out at the exhaust registers near the floor.

The hospitals are provided with intercommunicating telephones, fire-alarm boxes, and gongs. A special fire pump is provided to afford ample pressure under all conditions.

The water supply, other than for fire and sanitary purposes, is passed through a Loomis-Manning water filter of a capacity of 18,000 gallons per diem.

The vacuum cleaning system consists of a vacuum equipment located in the heater and blower room in the basement of the administration building, with thirteen 1-inch outlets located at central points, as follows: one each in basement, first, second, and third stories of administration building; one each in basement, first and second stories in each of the two ward wings, and one each in basement, first and second stories of the operating and subsistence building. Each outlet has a polished brass cover. The outlet caps are hung on a chain when off the opening. The openings are provided with a cock to prevent the noisy inrush of air when cap is removed. There are provided 100 feet of vacuum hose in two 50-foot lengths, with nickel-plated fittings; also two complete outfits of renovators arranged in hardwood cases for storing when not in use. The renovators are polished aluminum and nickel-plated brass.

The separator is the latest automatic type, which cleanses the dust-laden air by drawing it through a body of water which is changed at intervals automatically, the interval of change being regulated according to the amount of work being done by means of the admission valve on the water pipe. A glass peephole on the front of the separator gives a view of the contents as a check on the adjustment of the rate of flow.

The vacuum pump is of the double-acting, reciprocating vertical type, driven by a 7½-horsepower motor, with silent chain drive, all mounted on one base. The pump has a cylinder 13 inches

in diameter, with a stroke of 6 inches, and displaces 160 cubic feet of free air per minute with 175 revolutions.

An independent switchboard is provided for this equipment, and the system is provided with an unloading device which regulates the flow of current to the motor, thereby maintaining a practically constant vacuum under the varying load.

The calculated normal bed capacity is 14 beds for officers and 120 beds for enlisted men in each hospital, making the average cost per bed of $2,122. The estimated emergency capacity of the hospital is 184 patients.

The limitations of this article do not permit a description of all the other hospitals, but the reconstruction of the old Norfolk Hospital, a massive stone structure erected in 1832, into a modern hospital has been so successful as to merit a brief mention.

With the exception of the outer walls, this hospital has been practically rebuilt, structural steel replacing the massive stone supporting columns, buttresses, and wooden rafters. The floors are re-enforced concrete and the partitions hollow tile or brick. The toilet annex, which formerly closed in the southwest side of the block, has been removed, allowing free access to the interior court on that side.

The two new wings, three stories in height, built of brick, stucco-covered to resemble the older construction, project laterally from the front portion at the junction with the rear wings. The central or front portion of the former block contains the administrative offices, sick officers' rooms, and, on the recently added fourth, the operative department, which is accessible by a stairway and an elevator located on each side in the angle formed by the junction of the rear wing and the front portion. The entrance for ambulance cases is directly from the court in the rear to the elevators. This department comprises an operating room 25½ by 19½ feet, a surgeons' dressing and preparation room, a nurses' preparation room, an instrument and dressing room, sterilizing, anesthetizing, and recovery rooms. The operating room has both overhead and lateral illumination. The entire suite of rooms has a floor of white vitrified tiles 4½ inches square and a 6-foot wainscot of the same material. The walls and ceilings are of Keene's cement, covered with white enamel.

The wards, 12 in number, 3 in each wing, are practically similar. The utility rooms, consisting of a diet kitchen, toilets, and a nurses' or dressing room, occupy the near end. At the further end in a lateral extension of the ward on either side is a 1-bed quiet room. The new wards are 82 by 26 feet, the rear wards 112 by 23 feet. The normal capacity is 18 beds in the new and 26 in the rear wards, allowing about 1,500 and 1,300 cubic feet per patient, respectively, and an average of 100 square feet of floor space per bed.

Artificial ventilation is provided by plenum and exhaust systems. The supply fans are in the basement. The air is passed through gauze filters, heated and humidified as required, and conveyed to the living spaces, into which it passes through registers near the ceiling and the floor. The exhaust fans remove the air from the collecting chambers in the attics. The diet kitchens are provided with electric ranges, steam plate and food warmers, refrigerators, and dressers. All furniture in the linen lockers, dispensary, dressing rooms, and wards is of metal.

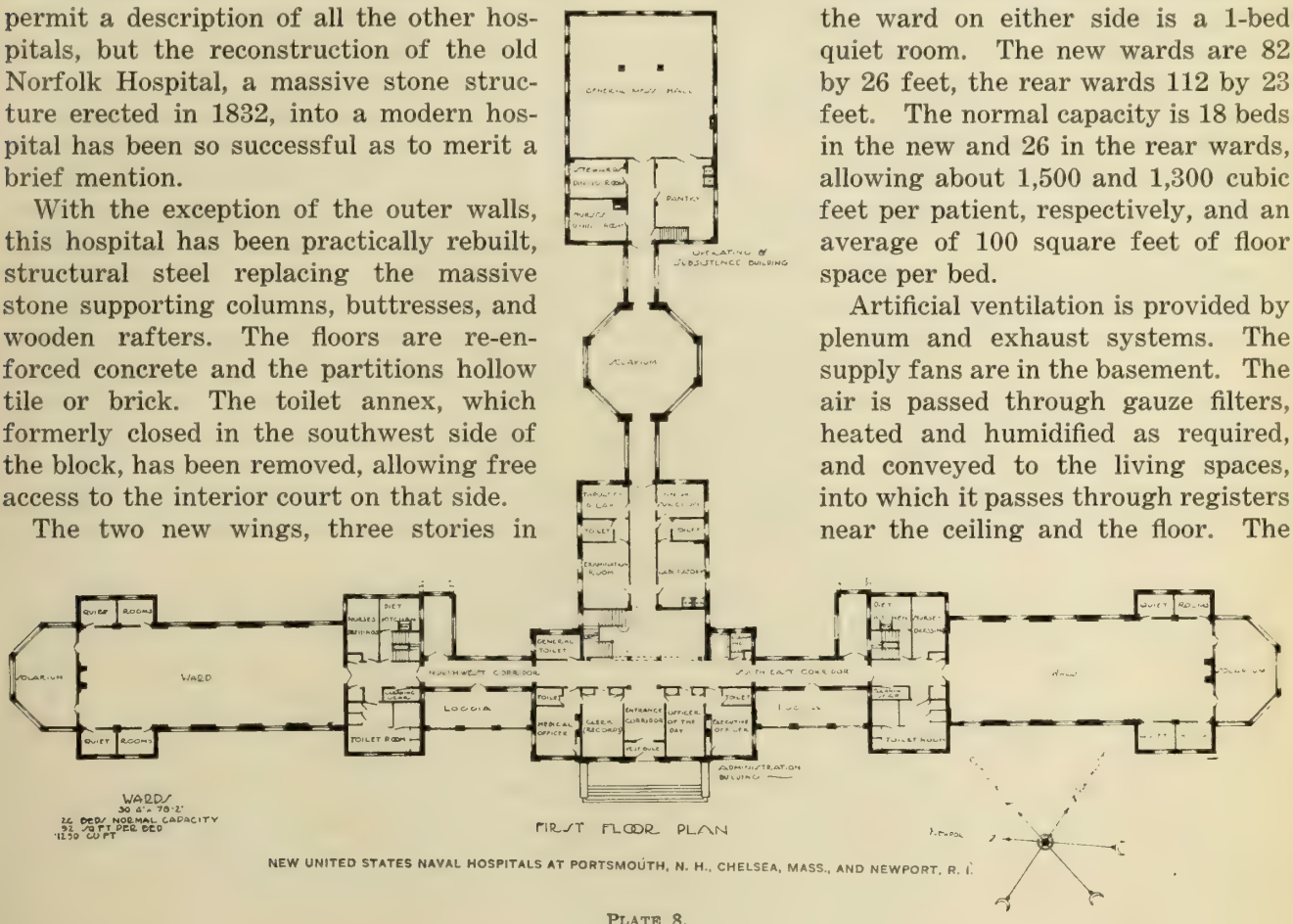

WARDS
30 4" × 78'-2"
26 BEDS NORMAL CAPACITY
92 .78 FT PER BED
1250 CU FT
FIRST FLOOR PLAN
NEW UNITED STATES NAVAL HOSPITALS AT PORTSMOUTH, N. H., CHELSEA, MASS., AND NEWPORT, R. I.

PLATE 8.

The navy has at present but two tropical hospitals, one at Canacao, near Cavite, Luzon, and the other at Guam, Mariana Islands, the latter being an insular hospital for the natives as well as for service use.

The Canacao hospital has a total capacity for about 200 patients. Erected in 1903–4, this hos-

pital, which is constructed of wood, has its stability seriously threatened by the ravages of the white ant, showing the inadvisability of using this material for tropical construction where this insect exists.

The projected hospital at Pearl Harbor, near Honolulu, is to be constructed of hollow tile and concrete. The general arrangement of the various units is similar to that of the type hospital, but more extended. Each ward unit will be surrounded by a wide veranda, and as additional pavilions are added they will be in the rear, but will partially project laterally beyond the one in front. This arrangement allows all the wards to have the cooling effect of the prevailing breeze, but, should it result in an undue lateral expansion, the echelon may be reversed, making the general outline lozenge shaped.

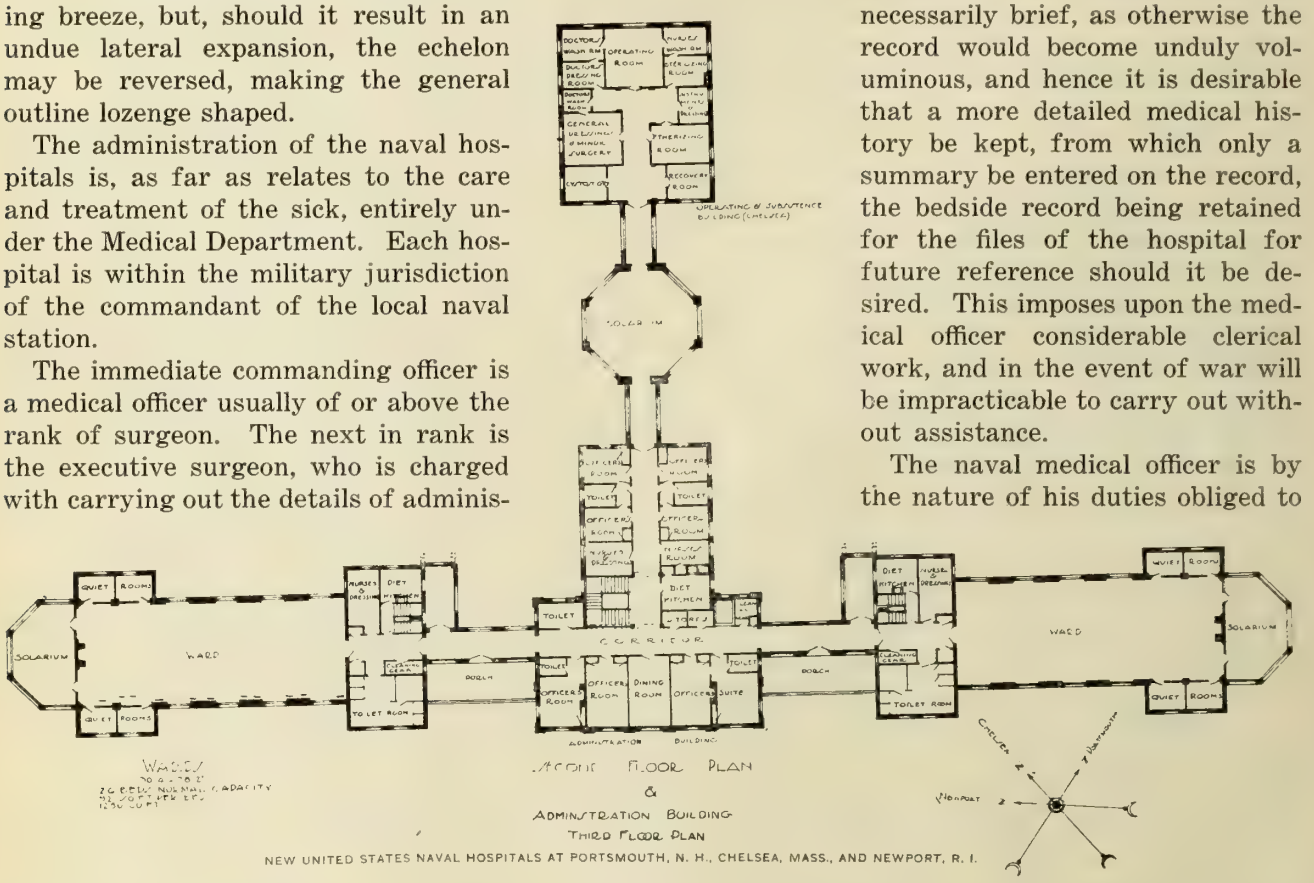
The administration of the naval hospitals is, as far as relates to the care and treatment of the sick, entirely under the Medical Department. Each hospital is within the military jurisdiction of the commandant of the local naval station.

The immediate commanding officer is a medical officer usually of or above the rank of surgeon. The next in rank is the executive surgeon, who is charged with carrying out the details of administration and general supervision of the care of the sick. The direct care of the sick comes under the ward officers, to each of whom, as a rule, not more than 50 patients are assigned. In the larger hospitals or under special conditions a special detail as operating surgeon, for eye, ear, and nose work, or in charge of the laboratory, is made.

The officers junior to the executive surgeon, other than those detailed as above, alternate on duty as officer of the day, who is responsible for the carrying out of the routine, the admission and discharge of patients, and the supervision and emergency treatment of the patients in the absence of the regular ward officer. As there are no interns, the ward officers are required to keep not only the medical history of cases, but also keep the official health record. This latter is a succinct record of all disabilities occurring during the service of each person in the navy and marine corps, accompanying the individual when transferred. While primarily intended for the purpose of determining the right to a pension, it is of great value to the medical officer in that it affords valuable assistance both in diagnosis and treatment. It is so arranged that medical history sheets may be added, the whole eventually being filed in the Bureau of Medicine and Surgery. The entries in the health record are necessarily brief, as otherwise the record would become unduly voluminous, and hence it is desirable that a more detailed medical history be kept, from which only a summary be entered on the record, the bedside record being retained for the files of the hospital for future reference should it be desired. This imposes upon the medical officer considerable clerical work, and in the event of war will be impracticable to carry out without assistance.

The naval medical officer is by the nature of his duties obliged to be a general practitioner in its broadest sense, as, in addition to having a thorough working knowledge of the diseases common to this country, he is obliged to be familiar with tropical diseases and to be a naval hygienist as well.

It is, therefore, desirable that officers alternate in the character of their hospital service, and too much specialization cannot well be encouraged. On the other hand, specialists are required in limited numbers for certain stations, as Washington, the Naval Academy, the larger hospitals, and at the Naval Medical School and on board hospital ships, and to a limited number who exhibit special



NEW UNITED STATES NAVAL HOSPITALS AT PORTSMOUTH, N. H., CHELSEA, MASS., AND NEWPORT, R. I.

PLATE 9.

capabilities in certain lines are given every opportunity the service affords to perfect themselves.

The nursing is performed by the navy nurse corps, assisted by the hospital corps. The former is composed of selected graduate nurses of civil training schools, the latter of enlisted men specially selected for this duty. The hospital corpsmen receive their primary training at the naval training station and on board ships, being transferred to the hospitals for further instructions and to attend to cases to which the female nurse cannot properly be assigned.

The nurse is in military charge of the ward, and the hospital apprentice is subject to her orders. While this arrangement is at times causative of friction, yet, on the whole, both parties adapt themselves well to the conditions—the hospital corpsman appreciates the value of the instruction and the nurse recognizes that the hospital corpsman is much more than an orderly.

The cleaning (other than the wards), cooking, and outside work is done by civilian employees.

The maintenance, and in recent years much of the cost of construction, has been defrayed from the naval hospital fund, which is derived from a checkage of 20 cents per month on the salary of every one in the service, all fines imposed by court-martial, forfeitures of pay on account of desertion, the pensions of those patients in a naval hospital, and an allowance of 30 cents, the commuted value of the ration a day for each person in the hospital.

Supplies other than those required in emergencies are obtained upon contract, made upon requisition, by the Bureau of Supplies and Accounts. All construction and extensive alterations are under the supervision of the Bureau of Yards and Docks upon plans approved by the Bureau of Medicine and Surgery. These arrangements relieve the medical department from the responsibility for the purely technical details of construction and purchasing and the incidental bookkeeping, while still leaving with it the general designing and selection.

The clerical force, composed of members of the hospital corps, is directly under the charge of the pharmacist, who is responsible for the bookkeeping in addition to his duties as commissary. The inventory of property is kept on cards, a dual system being used—one to check up receipts and expenditures, the other to show to whom or where issued.

In relation to the cost of maintenance, it is difficult to form a comparison with that of civil institutions. The naval hospital has a fully salaried staff, which must at all times be equal to the maximum demand on the capacity of the hospital, the civilian employees are well paid, as are all government employees, while in the civil hospital but few on the staff are given a salary, and, if a training class is maintained, much of the nursing is secured for a nominal sum. Furthermore, the service is distributed among a considerable number of institutions in the navy, each of which has to have all the equipment of a much larger hospital.

The average per-diem expenditure per patient in eight of our principal hospitals within the continental limits of the United States was, in 1912, 96 cents for total maintenance and 50 cents for subsistence, excluding salaries.

The ambulance service, exclusive of depreciation, was $1,500 per annum. The motor ambulance is being supplied to all stations. The latest model is fitted to carry the wire-splint stretcher devised by Surgeon General C. F. Stokes, U. S. Navy, which has the advantage of lightness and convenience in handling in confined spaces, is compact, and can be stored in nests of three. In case of need, this ambulance can carry six loaded splint stretchers inside—four suspended from springs, two on the floor, and one on each side of the body secured on brackets.

In regard to the surgical service, there cannot be said to be any more uniform methods employed in technic than exists in civil life. Operators have their idiosyncrasies, but it is evident that the dry iodin method of skin disinfection is the favorite, and the results justify the selection.

Ether is the usual anesthetic employed for the reason that it is the safest in the hands of the average anesthetist, and, with few exceptions, that is the best we can have with a constantly changing personnel. Nitrous oxid has been in use in several hospitals during the last three years, and the Norfolk hospital gives very favorable reports on it, but at others, although no fatalities have occurred, it is viewed with distrust. It requires a more or less cumbersome apparatus, which, with the difficulty in renewing the supply of gas, renders its use at sea impracticable. It is better to train our anesthetists ashore in the use of the anesthetic which they must use when afloat.

The responsibilities of the medical department are not fully met by providing for the requirements of the times of peace, but must anticipate the demands of war. It is possible that any coastwise naval hospital may become the evacuation or base hospital for the fleet after a decisive battle, and may have to receive as many as 5,000 to 10,000 wounded.

It is beyond the bounds of possibility that the state of preparedness of this country for war will

ever be such as to provide an extensive equipment at every naval station, but certain places like the Norfolk, the Mare Island, and Pearl Harbor (Hawaii) stations have been selected for base hospitals, and complete plans are being made for the erection of temporary additions to the local hospitals to bring their capacity up to 10,000 beds in the case of hostilities. These plans even extend to the number of the personnel required.

With the limited number of officers in the medical corps and the small hospital corps, both of which would be inadequate to supply the combatant ships, it will be necessary to call upon the Naval Medical Reserve Corps and the National Red Cross Society.

Owing to their familiarity with the administrative features of the hospital service, the regular medical officers will occupy the executive positions to a great extent.

In conclusion, it may be stated that with the completion of the present building program the navy may well feel proud of the provisions for the care of the sick and injured during the piping times of peace, and that as far as it rests with the medical department it will not be found unprepared for war.

THE PASSING OF "THE HOSPITAL UNIT."

The Hospital Unit a Minor Factor and Can No Longer Be Regarded the Central Feature of Hospital Planning.

By S. S. GOLDWATER, M. D.

SUPERINTENDENT MOUNT SINAI HOSPITAL, N. Y.; MUNICIPAL EXPERT IN HOSPITAL CONSTRUCTION IN THE DEPARTMENT OF BELLEVUE AND ALLIED HOSPITALS OF THE CITY OF NEW YORK.

IN the presentation of the principles of hospital construction, as well as in the criticism of hospital plans, writers frequently begin and not infrequently end with a study of the characteristics of the hospital unit. Dr. Holmes is in good company, but he is nevertheless wrong when he declares that "it (i. e., the hospital or ward unit) is by far the most important of all subjects that we have to deal with in modern hospital construction," for the hospital unit may be perfect as a unit and the hospital totally inadequate as a hospital. The value of a hospital is proportionate to its realization of an ideal hospital scheme. Hospital planning, therefore, must have an eye to the realization of a perfect plan of hospital organization, which is precisely what the exponent of the hospital unit overlooks.

The need of the hour is to raise hospital criticism to a level where it will no longer be content to utilize, as its most important instruments, simple standards of floor and wall and window space; where it will cease to accept or condemn a plan because of the presence or absence of sanitary towers (I refer to the English school of criticism); where it will not naively continue its time-worn and, at present, superfluous defense of sunlight, fresh air, and cleanliness.

The hospital critic should argue from the standpoint of one responsible for the organization and equipment of a hospital designed to meet promptly, efficiently, and economically all the medical needs of all possible patients. A hospital of this kind will necessarily follow the rules of hygienic house-building; will make proper provision for its workers; will provide suitable equipment for its physicians, nurses, and attendants; but, besides this, it will place the members of its varied staff in such relation to each other as to insure their constant mutual support. A hospital plan which fails in any respect to fulfill the requirements of an ideal hospital organization fails, to that extent, to justify itself, no matter what the intrinsic merits of its ward unit.

My contention is that we can no longer afford to treat the "hospital unit" as the central feature of discussions on hospital planning. What is needed nowadays is rather a statement of the proper characteristics of the hospital as a whole. So vital is the need that a censor of hospital literature, if there were one, would be justified in forbidding for a decade the publication of any article on hospital affairs which failed to express some general thought on the essential characteristics of the complete hospital. It is true that a censorship so exercised would cause the temporary suppression of useful suggestions concerning details of ward arrangement and construction, but the resulting loss would be temporary and trifling, and in the meantime our ideas would have become broader and more fruitful, gaps in current thought and practice would have been filled in, and there would have developed a hospital literature possessing a scientific value hitherto rarely attained.

In the new order of writing here proposed the hospital unit, the hospital ward and its accessories or dependencies, would no longer appear as a sort of miniature hospital, the simple multiplication of which need only be considered in the planning of a large hospital, all matters besides holding a

merely incidental and subordinate place in the general hospital scheme. Hitherto the hospital unit has thus dominated our thought and practice; in consequence hospital development has been retarded. Hereafter we must regard the hospital unit as a minor factor in a great correlation of parts which, functionating together, make up the healthy, growing life of the complete hospital. With the hospital unit filling our vision, we have been unable to perceive that the country is covered with a multitude of incomplete hospital fragments, immature and relatively ineffectual institutions, which are erroneously dignified by the title of "hospital" or even "general hospital." This condition has been tolerated because the study of hospital planning has been pursued apart from that of hospital organization; yet the best in hospital construction can never be attained until our notions of hospital organization are clarified and developed. It is our ideas of hospital organization at its best that the hospital building must body forth.

Let me give a few illustrations of the overshadowing role which the hospital unit has hitherto played in hospital literature.

"The ward with its necessary adjuncts," says Galton, "is the central unit of hospital construction; the form of the ward will govern the central features of the hospital. . . . The ward is a small hospital, which would require only certain administrative additions to make it complete. It forms a basis for any hospital. . . . A large hospital of any required size might be formed by the addition of similar units." The same writer, undertaking to define a hospital, declares that "the shape of the wards is the first point to be settled." If Galton had the faintest conception of the vital interdependence of the numerous branches of modern medicine, he failed to show it in his otherwise helpful book.

But Galton was primarily an engineer and sanitarian, from whom it may be unreasonable to demand an understanding of the principles of medical administration. One turns, therefore, in the spirit of hope to a monograph entitled "The Meaning of a Modern Hospital," written ten years after the publication of Galton's book, by W. Bruce Clark, surgeon to St. Bartholomew's Hospital. "A good hospital," says this writer, "so far as its construction is concerned, may be summed up in two words—ventilation and sunlight—and all methods of construction aim at making these as perfect as possible. The first point to be considered is the ward in which the patient is treated. Its shape, size, and surroundings form the keynote to the hospital system. The term ward unit implies the application of standard sizes to the construction of a hospital. . . . The aggregation of a number of ward units forms what is called the pavilion or separate building, which is complete in itself; and it is the aggregation of a number of pavilions, usually of equal size, which form the hospital."

Clark does finally arrive at the point of considering the grouping of ward units together, but his conception of ward grouping is purely that of the hospital builder. "It is permissible," in his opinion, "to group five ward units, under certain conditions, on the top of one another." The pavilions are to be supplemented by isolation blocks, operating theaters, pathological department, residents' and nurses' quarters, and out-patient department; and, in order that the "various departments that have been referred to may be worked harmoniously, expeditiously, and economically, there must be some one at the head of affairs ever ready to correlate them, so that the highest efficiency may be obtained and no waste be permitted." The writer thus concludes his essay without arriving within hailing distance of the real "meaning" of a modern hospital. The only correlation to be thought of, according to Clark, is that which an able superintendent may be able to introduce and maintain, and it is to the correlation between ward units and administrative departments that the superintendent is to address himself. To the basic need of the correlation of clinical departments, to the importance of planning a hospital with relation to the fundamental principle of clinical cooperation, Clark does not allude.

Is it not futile to expect the hospital architect, beginning from the point of departure of the hospital unit as conceived in the writings just quoted, to gain any idea of those factors in hospital organization which are indispensable to the highest clinical achievement, and which should therefore determine the character of a hospital plan? The truly "modern hospital" will not be content to provide for its patients clean and wholesome surroundings, suitable nursing appliances, the machinery of domestic administration, therapeutic apparatus, and means for the scientific investigation of disease. What is most characteristically "modern" in the efficient hospital of today (and in this sense hospital efficiency is almost unknown in this country) is a clinical organization so composed as to insure prompt and effectual attention to any disease or combination of diseases that may threaten life or health. The keynote of modern medicine is cooperation. To study the hospital unit, looking neither to the right nor to the left, is to suffer ourselves to be led away from and not toward this vital principle. Hospital planning which ignores the possibilities of cooperative

medical practice is unworthy and unfit for the object to be attained.

The plan which begins with the conception of the hospital unit rarely proceeds far from its starting point; this could readily be shown by the citation of numerous examples, some of which will immediately occur to any reader who is at all familiar with the American hospital field. Such a plan contemplates a few of the hospital needs of a small group of patients; it concerns itself with such simple desiderata as sufficiency of air space, proper ventilation, exposure to the sun, cleanliness, the disposition of body wastes, the preparation and distribution of food, the recreation of the convalescent—requirements which may be and have been provided for, while the finer and broader opportunities of modern hospital work are disregarded. To emphasize the ward unit in hospital planning is to place emphasis where emphasis is no longer required. The very simplicity of the thought involved insures its ready acceptance by architects and lay committees, and is fatal to a more serious analysis of hospital requirements. The hospital unit is an incident in hospital architecture—not a finality; to mistake its true place, to overrate its value, is disastrous to larger issues.

The superficial thinker who addresses himself to the task of planning a dormitory suitable for the sick believes that he has grasped the true inwardness of hospital planning. If a small hospital is in contemplation, his program first describes the requisites of a sanitary hospital unit; a few words are then added in regard to the kitchen, laundry, administrative offices, operating rooms, and dormitories; floors, doors, windows, and balconies receive brief mention, and the hospital scheme is complete. For a larger hospital the formula is the same, except that it becomes necessary to duplicate the hospital unit five, ten, or twenty times, according to the required number of beds. A program of this sort appeals to the uninitiated by virtue of its simplicity. Too often it is accepted as complete, or at least as sufficient for the purpose, and inevitably there results a hospital puerile in conception, lacking in breadth, without coherence. A hospital thus prematurely born is condemned by the very conditions of its birth to a lifelong struggle against clinical inefficiency, the causes of which may never be perceived.

There would be a different story to tell if one began with the conception of the hospital as a whole, a hospital with an organization designed to do any part, or all parts, of the work that modern medicine is capable of doing; a hospital which, by means of a proper utilization, distribution, and correlation of all available forces, enters properly equipped on the struggle to defeat disease by discovery, by prevention, by cure. Such a conception compels at the outset the survey of a wide range of requirements; its chosen method is the correlation of many functions; the daily cooperation of clinicians of varied training and capacity; the maintenance, in facile form, of a helpful copartnership between clinician, laboratory worker, nursing organization, business administration, domestic administration, and social service department. From the principle of cooperative effort should be deduced the relation of individual patients to each other and to the several parts of the hospital; thus, and thus only, should the planning of a hospital be undertaken. Fragments of hospitals have been created by fortuitous circumstances, and these, regardless of their fitness to fulfill the highest functions of a modern hospital, we have been too ready to accept, particularly if their ward units have conformed to sanitary standards and have shown a reasonable regard for convenience in their interior arrangement.

In an elaborate article on "The Planning of a Modern Hospital" a distinguished fellow worker, Dr. Christian R. Holmes, from another of whose papers I have already quoted, says that hospitals may be classified under the four following heads:

1. Municipal general hospitals, which "must admit every form of disease" (as if the compulsion so to do were a hardship and to be deplored).

2. Municipal special hospitals for contagious and communicable diseases.

3. Voluntary hospitals, which, "not being municipal, have the right to elect what classes of cases they will admit."

4. Special hospitals, such as lying-in, children's, orthopedic, ophthalmic, aural, neurological, and skin hospitals.

Having thus classified existing hospital types, Dr. Holmes proceeds to discuss in a most illuminating manner certain details of hospital construction. In his opinion "the first thing to be determined" in the planning of a hospital is "what type of ward shall be adopted," and "the next step is to develop the ward unit as the starting point of our whole hospital scheme," the ward unit being "a small, but complete, hospital in itself." Even for Dr. Holmes the fascinations of the ward unit are too great to withstand, and this accomplished hospital worker, having at the outset made it perfectly clear that there exist four varieties of hospitals which differ greatly in scope and principle, turns his back on the fundamental question of the relative value of the different kinds, and, without lending the weight of his authority to any principle of hospital organization, adds one

more voice to the chorus which proclaims the hospital unit as the starting point of all hospital planning.

How much more sensible, in planning a hospital, to ask at the outset, What properly constitutes a hospital? How should the clinical organization of a hospital be composed? What groups of cases, what clinical departments, should be recognized in order to insure the greatest efficiency in the treatment of disease? How organize, plan, and build in order to insure indispensable cooperative effort in the handling of complicated cases? To work out a theory of hospital organization, and then to create, at once or by gradual steps, an institution to correspond to the accepted theory, would be to organize and plan a hospital on rational lines. If hospitals were planned in this way, no phase of clinical medicine could or would be neglected. Since complicated cases are not rare in hospital practice, and since the care of such cases implies the cooperation of a group of clinicians of varied training and capacities, hospitals are in duty bound to establish departments equipped to deal with the special branches of medical and surgical work. It is of primary importance that the many distinctive problems in clinical medicine should be recognized, and the interrelations of the various branches of medicine provided for. We must no longer be content, with Galton, to define a general hospital as one "with a medical and a surgical side," or to accept, in defense of special hospitals which are lamentably deficient in all-round ability and equipment (necessarily so because of their self-imposed limitations), the statement, historically accurate though it be, that, "owing to the absence of any suitable provision for the treatment of special diseases, special hospitals were founded." Such a statement explains the origin of existing special hospitals, but it does not justify them. One may make "suitable provision for the treatment of special diseases" in special hospitals, but not until the patients who enter such hospitals are guaranteed that they will have no other diseases while there can one promise suitable provision for the patients themselves in institutions of such limited scope.

With the hospital unit as our sole guide, the general hospital, with "a medical and a surgical side," and the special hospital, with its one-sided organization and its helplessness in the face of unexpected and complicated emergencies, pass muster as satisfactory hospitals; but, inasmuch as neither the general hospital, which is composed exclusively of a medical and a surgical side, nor the special hospital, which is manned by a group of regional technicians, is prepared, in the treatment of its patients, to bring effectually to bear the combined resources of modern medicine, no hospital of either type should be created henceforth without a protest. And for the same reason existing hospital fragments, wherever and whenever possible, should be placed together into whole and competent hospitals.

The hospital unit has served its day and purpose. Today it is a stumbling-block in the road to hospital progress. Let us, therefore, by a common effort put it aside and turn to it only as we have need for it. No longer should it be permitted to occupy the middle of the road. He who looks on the hospital unit as a miniature, but complete, hospital has failed to read aright the signs of the times. Today the hospital unit is dependent not only on the central equipment of power plant, domestic service, etc., but on other ward units, designed primarily for other and specialized work. The internist, the general surgeon, the regional specialist, can no longer stand alone; therefore the ward unit, which is the clinician's workshop, has ceased to be an independent unit. The needs of the patients determine the right relation of members of the hospital staff to each other; to facilitate these relations is the great aim of modern hospital organization and construction. A single ward and its accessories no longer constitute a "hospital unit." Today a ward is an incomplete fragment—the hospital is itself the unit.

Hydrotherapy.

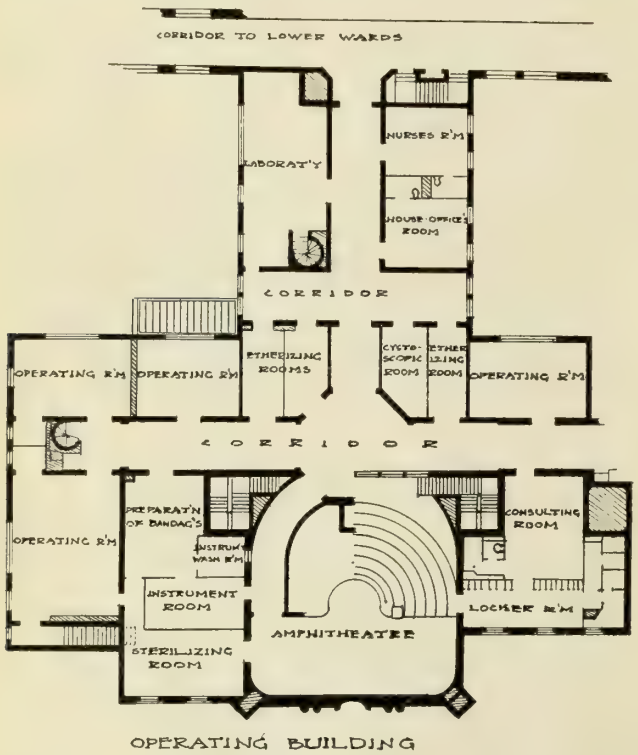
According to Dr. Joseph H. Pratt, of Boston, in a recent address to the medical staff of the Clifton Springs Sanitarium, the yellow streak that runs through all forms of physical therapy deters many good men from investigating the value of hydrotherapy, though he sees signs of increased interest in the subject. The officers of the medical and pharmacological sections of the American Medical Association have in recent years sought repeatedly to have papers on this subject and allied subjects, and in an increasing number of hospitals the authorities are installing good equipments for hydrotherapy and mechanotherapy. While this is encouraging, Dr. Pratt states that it must be admitted that in some of the hospitals with hydrotherapeutic departments the apparatus is not used at all, and in others visited by him the work done is not such as to deserve commendation. He considers that it is essential for success that the hydrotherapeutic treatment in hospitals should be under the immediate direction of a physician trained in hydrotherapy who is in a position to devote a large portion of his time to this work. Too often the all-important details of temperature, duration of the bath or douche, and often the selection of the procedure, are left to the nurses and masseurs who give the treatments. Hospital authorities will in time realize that the selection of a trained man as director of the department of physical therapeutics is even more important than the selection of apparatus.

THE SURGICAL UNIT.

European and American Architecture Compared—Description of Equipment.

By EDWARD F. STEVENS.
FELLOW AMERICAN INSTITUTE OF ARCHITECTS, BOSTON.

THE surgical or operating unit, as applied to American hospitals, is much more varied than the medical ward unit, and far be it from me to say to members of the American Medical Association that this or that is the way to provide for this important branch of the hospital. We could not take as a model any of the European operating building plans, as the conditions are vastly different. In the German government hospitals one surgeon will do the majority of the operations, and will naturally need but one or two rooms,



OPERATING BUILDING

PLATE 1.

while with our hospitals it is not uncommon to see five or six operations going on at once in even a hundred-bed hospital.

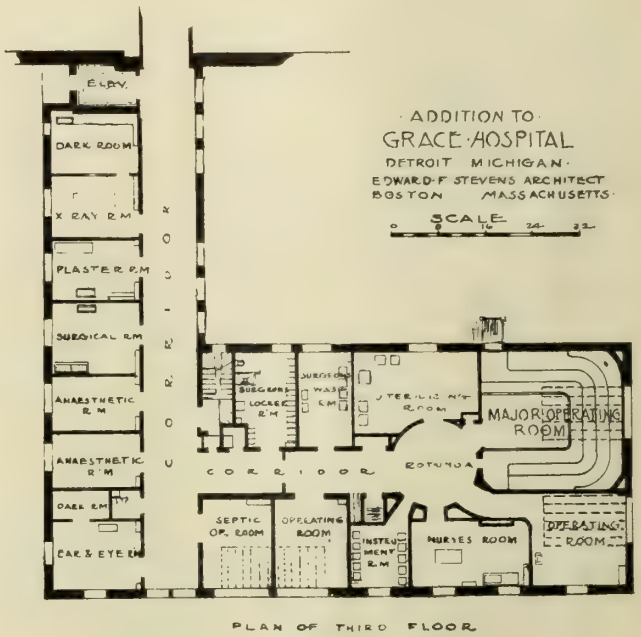
Then we must be governed by the local methods of the surgeons who will do the work. Moreover, every year come new methods of treatment from the anesthesia of the patient to the later recovery. Therefore a building planned to meet the requirements of today may, when finished eighteen months later, be lacking in some very essential detail, so that the up-to-the-minute operating unit is wellnigh impossible to obtain.

To illustrate the point just made about the European hospitals, I will call attention to several noteworthy examples:

The Virchow, at Berlin, with its 3,000 patients, a large percentage being surgical, has only four operating rooms, one of which is for septic cases.

In the St. Georg, at Hamburg, there is but one aseptic operating room.

The Munich-Schwabing has only one aseptic operating room, while in the Massachusetts General (plate 1), with 250 patients, there are five, besides accident, surgical dressing and numerous surgical out-patient clinic rooms, in addition to which there is a separate operating room for the orthopedic department.



PLAN OF THIRD FLOOR

PLATE 2.

In the operating department of the Grace Hospital (plate 2), at Detroit, there are three clean operating rooms besides the septic operating, surgical dressing, and plaster rooms. The surgeons' locker and dressing rooms are outside the clean portion of the department. Here the room for scrubbing up is not connected with the locker room. There is a large sterilizing room and a larger room for the nurses' work of preparation, an instrument room, where each surgeon has his own compartment in the instrument case, etc.

For the new surgical department of the Rhode Island General Hospital (plate 3) an entire up-

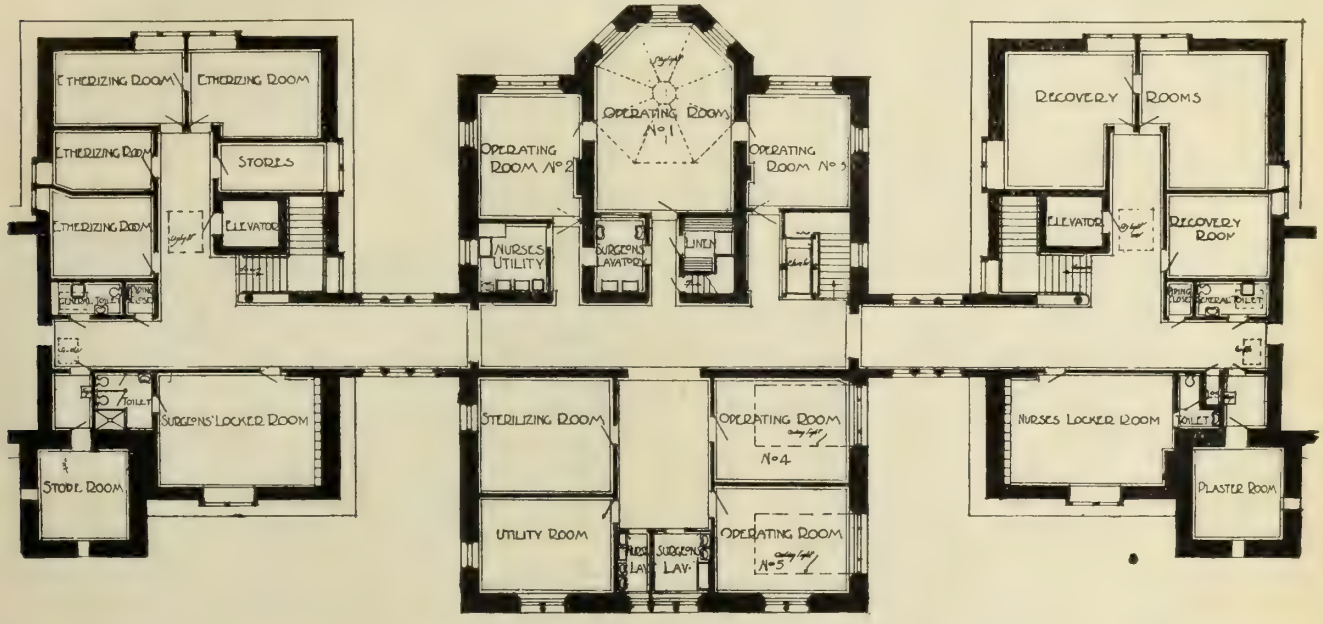
per story was remodeled to serve this purpose. This plan gives an abundance of work room for everybody.

The operating department of the new Detroit General Hospital shows much study and thought, as it provides major operating room, with amphitheater for the use of students, and one emergency and two general operating rooms. The work of sterilizing for this department is done by two sterilizing rooms, each room supplying two of the operating rooms.

A nurses' work room is provided between the amphitheater and the second major operating room. The preparation or anesthetizing rooms, three in number, are between the main corridor and the various operating rooms.

In the other rooms of this department the comfort of visiting surgeons is looked after, having separate entrance to galleries and observation stands, avoiding the necessity of passing through the operating rooms themselves. A small laboratory is provided, also recovery, locker, waiting rooms, etc., making this unit very complete.

On the ground floor are located the receiving and waiting rooms, two accident rooms, laboratories, morgue, and storerooms, while on the first are the operating rooms and the two anesthetizing rooms, which are placed in the center of the building, with skylights, and entered either from the main corridor or from the operating corridor. This makes it unnecessary for the patient to enter the operating corridor until anesthetized. The three aseptic operating rooms open from this 10-foot corridor, in which are the surgeon's scrub-up bowls, so placed that six men may scrub at once. These bowls are of a special design, with elbow valves, soap dispensers, etc. A septic operating room is provided, and there are also a large sterilizing and nurses' work room, a small laboratory, instrument room, and blanket warmers.



OPERATING DEPARTMENT
RHODE ISLAND HOSPITAL, PROVIDENCE, R. I.

KENDALL, TAYLOR & STEVENS
ARCHITECTS

PLATE 3.

One of the most interesting problems it has been my privilege to work out is the operating building at Youngstown (plates 4 and 5), occupying a position at the north of the general group and west of the new Tod Wing, which is two stories in height and is divided into two sections —the accident and the operating.

The accident department, on the ground floor, gives access for ambulance patients of the hospital, the elevator reaching the first floor level.

Sterile water is brought to each operating and accident room, and there heated locally by electric heaters.

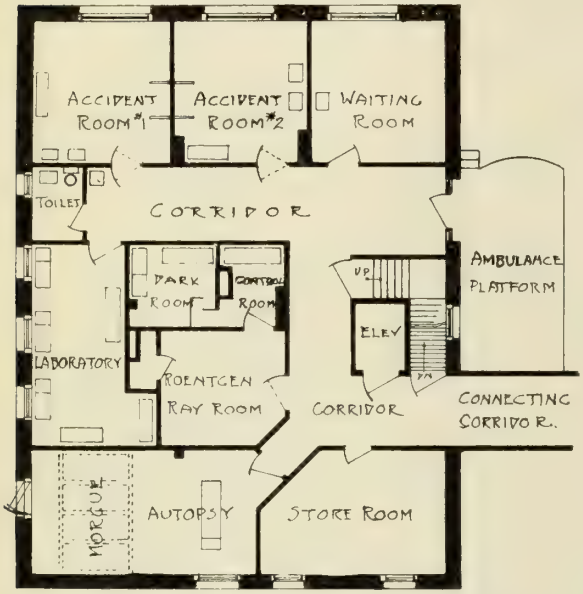
The plan shown in plate 6 is that of the operating department of a small hospital—the City Hospital at Quincy, Mass. In this all of the essentials have been provided, with accident and Röntgen ray rooms, surgeons' room removed from the clean corridor, and the open scrub-up bowls.

OPERATING DEPARTMENT ESSENTIALS.

It would seem to me essential that we should provide a sufficient number of well-lighted, well-heated, well-ventilated operating rooms. In these I would have little or no plumbing or other attached fixtures, except perhaps the floor drain and

the sterile water outlet. These outlets, with the local heaters now to be procured, can be very simple. This outlet nozzle should be hooded and protected against handling. The heating of the room should be sufficient for any desired reasonable temperature. A certain amount of fresh air should be introduced to make the room comfortable to work in, and, if this air can be washed, so much the better.

There can be no objection to direct heat, provided the heating units are readily accessible for cleaning. The glazing, in cold climates, should be double. This will allow fresh heated air to be introduced into the room between the glazing, and



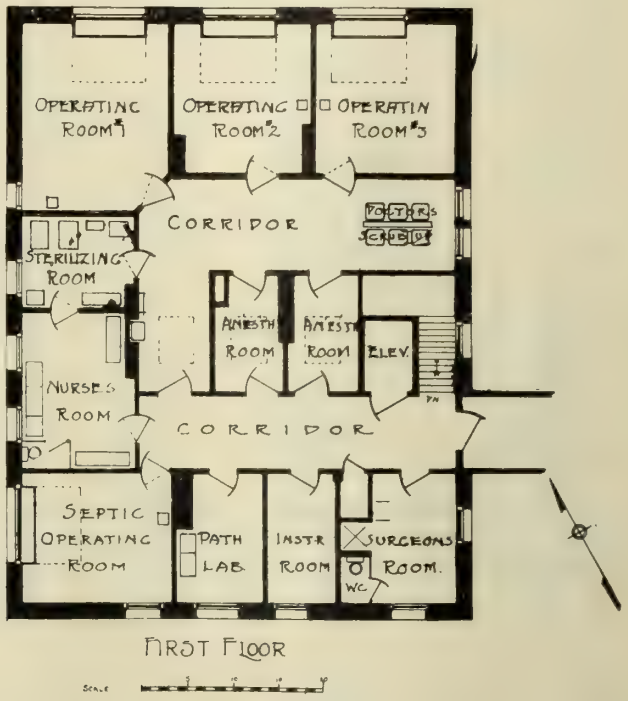
GROUND FLOOR

OPERATING BUILDING
YOUNGSTOWN HOSPITAL
YOUNGSTOWN OHIO
EDWARD F. STEVENS ARCHITECT BOSTON MASS
STANLEY & SCHEIBEL ASSO. ARCHTS YOUNGSTOWN

PLATE 4.

scrubbed, and sprayed, and every operating room should have a covered flushing floor drain.

Next to the operating room in importance is the sterilizing room. This need not be large, but should be specially ventilated, and all exhaust steam pipes extended to the open air wherever practicable. I would advise that the water sterilizers or still be at an elevation, so that the sterile water may flow to each operating room. I am inclined to think that the European type of box sterilizer, which opens like a cabinet, is the most convenient, as it at once gives access to the entire contents of the sterilizer. The saline solution tank, with thermostatic control, should be provided, and the basin and instrument sterilizers should be as simple as possible.



FIRST FLOOR

PLATE 5.

will also permit the use of rolling shades between the skylight and the ceiling.

For artificial lighting there is much to be said. The crane light has been used successfully, having the advantage of a direct and powerful light when needed, and capable of being removed when not wanted. In several of the hospitals I am using a form of reflected lighting, making four outlets near the ceiling. The light is reflected to an opal disk directly above, and thence to the operating table, with very little loss of light. These lights can be above the ceiling light if the construction permits.

The floor of the operating room, and in fact of the whole operating suite, should be of some nonabsorbing material which could be washed,

Perhaps next in importance is the work room for the nurses. This room should be large enough for the corps of nurses needed, and be provided with tables, sinks, slabs for cleaning instruments, special scrub-up bowl for the clean nurse, cabinets for the sterile and unsterile dressings, ether case, etc.

The small laboratory for quick diagnoses is considered a necessary part of the operating flat. Here should be provided sufficient apparatus for making quick microscopic examinations of tissues while the patient is still on the table.

There should be a room for instruments, where each surgeon should have his own locker or compartment, and anesthetizing rooms, well ventilated, sufficiently screened from the operating

corridor and sufficiently near the operating room, with doors of ample width, with jambs and door protected by metal. Blanket warmers, supply cabinets, and slop hoppers should be provided.

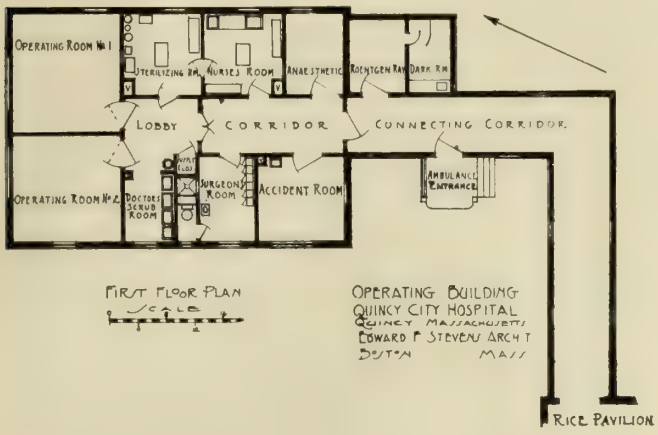


PLATE 6.

There should be a surgeons' room or rooms, of sufficient size, supplied with lockers for each surgeon, comfortable furniture, shower bath, and toilet.

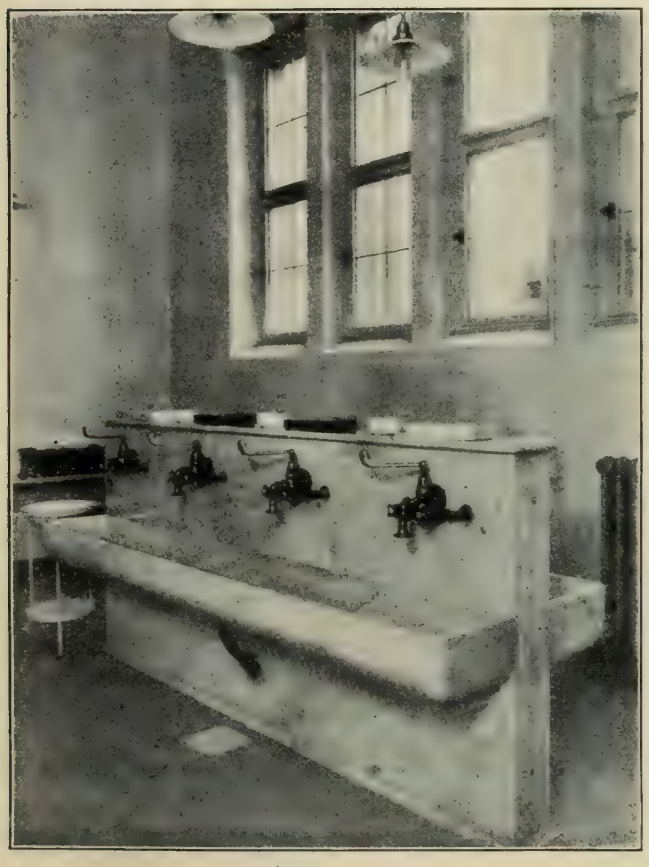


PLATE 7.

The scrub-up sink should, I believe, be either in the corridor or in an open alcove near the operating rooms, where it will not be necessary to open any door and where there will be plenty of room for all to work. Perhaps the nearest approach to an ideal scrub-up sink that I have seen is the one at the Munich-Schwabing Hospital (plate 7), where eight people can scrub at once, with no interference with one another.

There is so much that could be said about the detail and equipment of the operating unit, the operating table, the solution stands, the stretcher holders, wheel trucks, etc., that, if one attempted to cover the whole ground, this article would become too long.

Aluminum Kitchen Utensils.

Professor Glaister, of the University of Glasgow, has made a series of experiments to determine the fitness of aluminum cooking utensils. Bacon, lard, milk, ordinary salt, dilute acetic acid, a mixture of salt and tartaric acid and citric acids, distilled water, "hard" water, and "soft" water did not have the slightest effect on the metal dishes, as evidenced by the failure to find even the least traces of aluminum in the substances cooked. Small amounts of metal were found in orange, cabbage, and tomatoes prepared in these vessels. The most solvent action was found to be due to sodium carbonate.

Government Advice on Milk.

In order to determine the best way of pasteurizing milk so as to kill the disease germs, and yet not give the milk a cooked flavor or lesson its nutritive value, the Department of Agriculture, through its dairy division, has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report of these experiments in Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for thirty minutes the chemical changes are so slight that it is unlikely that the protein (muscle-building element) or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to Bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated, if kept for any length of time, has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the dairy division finds that pasteurizing at low temperatures calls for less heat. It is found that it takes about 23½ percent less heat to raise milk to a temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ percent more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The department, therefore, recommends that "when market milk is pasteurized it should be heated to about 145° F. and held at that temperature for 30 minutes."

According to Gaelic literature, the first hospital was located at Tara, the place of the kings of the heroic age of Ireland. It was called the "House of Sorrow," and was a hospital for the care of sick and wounded Red Branch knights, an order that flourished about 300 years B. C.

THE SANATORIUM—YESTERDAY, TODAY, TOMORROW.

By JAMES G. MUMFORD.
LECTURER ON SURGERY, HARVARD MEDICAL SCHOOL; DIRECTOR THE CLIFTON SPRINGS SANATORIUM, CLIFTON SPRINGS, N. Y.

RECENTLY scientific medicine has begun casting fugitive and occasional glances upon the general sanatoriums, and has been asking why these great depots of pathology cannot be turned to better use in the world. I do not refer to the already valuable private sanatoriums for tuberculosis and for insanity, but to the great general sanatoriums. Why is it that these institutions do not stand with the hospitals for a wide service to the community, and for the advancement of medicine? The answer lies in the history of medicine and in the initial purposes of these two types—the hospital and the sanatorium—purposes widely asunder. Now, the hospital has come to occupy a position of the highest respect and confidence in modern society, while the purposes and accomplishments of the sanatorium are as yet uncertain. The hospital for more than a thousand years has stood for generosity, for self-sacrifice, for genuine help to the world's unfortunates. The sanatorium has stood for a more narrow and personal service. The hospital, even the private hospital, has long allied itself to science, has attracted to its service the great men of the medical profession, has even sacrificed itself to genuine progress. And most striking of all, perhaps, the great modern conception of a hospital's function as a school for medical teaching and training has distinguished it more than ever from the sanatorium. The medical profession, educators, hospital trustees, and even the general public acknowledge as axiomatic the fact that the ablest and most successful physicians are stimulated to their best endeavors by the obligation of teaching and by the generous rivalry which such teaching engenders. Thus are investigations made, facts recorded, experiments justified and perfected, and new knowledge added and published to the world. As a corollary we see the greatly successful hospitals become adjuncts and integral parts of the great university schools. For such reasons, hospitals, next to the universities and the colleges, have become the favorite objects of interest and benefaction in these modern days. Their great endowments are enabling them to continue their beneficent work.

The reply to all this, the defense of the sanatorium, runs somewhat on these lines: Very true, the sanatorium is not a great charitable institution; it is not a great factory of scientific progress. Such are not its functions. It is a retreat for the well-to-do sick. It is a medical institution for the more or less luxurious care and comfort of those who prefer to be ill away from their homes. These persons do not care to be studied; they do not care for highly trained and specially equipped physicians; they are mostly convalescents and chronic or incurable invalids; they ask merely for peace, reasonable medical oversight, and good nursing. Such is the common sanatorium defense.

This defense is not a just statement of modern conditions. Who shall say what is a convalescent, and what disease is chronic or incurable? In a subsequent writing I shall deal with the nature of a modern sanatorium clinic. Briefly, let us consider here the conditions inherent in sanatoria which render them inferior to hospitals and limit their usefulness. And let us regard the possibility of improvement.

With few exceptions, sanatoria are private institutions, owned and conducted largely for the production of dividends. They partake no little of the nature of hotels, but with medical adjuncts —a few overworked physicians (general practitioners, all too few), medical baths, perhaps a gymnasium, a fugitive laboratory, perhaps an x-ray plant, and a stereotyped dietary. In fact, such sanatoria are not yet sound, medical institutions in the proper sense. Moreover, such sanatoria often maintain a subservient attitude toward the medical profession, on which they are dependent for their patients, or "guests," as they are often called. Such are the majority of American sanatoria.

In contrast there are many small special sanatoria, owned and controlled by physicians, often by competent physicians, who are commonly neurologists or persons skilled in the care of nervous and mental diseases. To such institutions and to such physicians we look with confidence for substantial contributions to medical progress. The main difficulty and disadvantage with such special institutions is that they tend to become one-sided, for with their small staffs they cannot furnish groups of men especially skilled in the study of the divers conditions and complications incident to all disease. Consequently outside experts frequently must be called in, and the cost of maintenance and care of the patient must be proportionately increased.

Of late a third type, a better large general sanatorium, is showing rare signs of development

among us—a sanatorium either privately endowed and conducted by responsible trustees, or owned by a group of physicians without the special purpose of producing dividends, and dedicated to the proper care of the sick and to the advancement of medicine. The advent of such sanatoria is hopeful and encouraging, and bids fair to wipe out the sometime sanatorium reproach. Such institutions are truly special types of hospitals—indeed, the term "sanatorium-hospital" best expresses them. In foundation and resources they resemble somewhat the small college; they are supported in part by the fees of patients and in part by gifts or contributions from persons especially concerned for their success—for example, churches, mission boards, village communities, and the like. Such a sanatorium-hospital, when properly developed, is conducted especially for the well-to-do and for persons of small means—for the middle class and not for the poor; the poor must still seek the charitable foundations of the larger towns. The new sanatorium-hospital is in the country; it rejoices perhaps in spacious grounds and buildings, but above all else, it attracts to its staff and supports with increasing salaries and in cooperative practice a group of qualified experts, skilled in the study of disease, drawn from the university schools, themselves students and investigators, and looking perhaps for future university appointments. Such a sanatorium-hospital is equipped with proper laboratories, trained laboratory workers, x-ray investigators, an industrial department, and, best of all, the special departments of medicine, surgery, orthopedics, neurology, and the like, without which no general medical institution can become efficient. I shall discuss further the development of the modern and, I trust, model sanatorium.

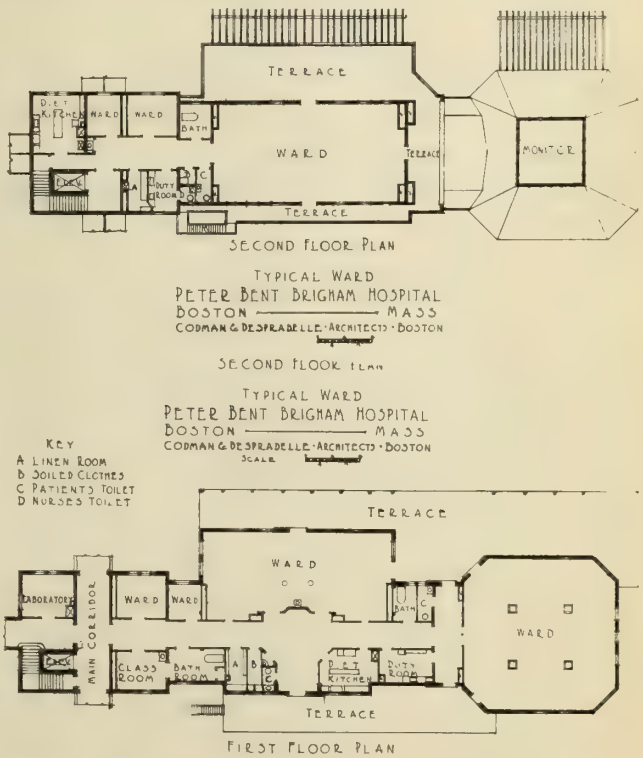
PETER BENT BRIGHAM HOSPITAL.

Arrangement of Wards for Purposes of Efficiency and Economy of Administration.

By HERBERT B. HOWARD, M. D.
SUPERINTENDENT.

THE typical ward of the Peter Bent Brigham Hospital is really not a ward—it is a building. There are four such buildings. Each contains three open wards of fourteen, twelve, and eight beds, respectively, and five rooms—three of two beds each and two of one bed. In outward appearance the edifice suggests the bow half of a passenger steamship, with decks, gangways leading from deck to deck, and each cabin receding somewhat from the cabin on the deck below. The structure recedes at each story from south to north, and also at the second story on the east and west; thus, as far as possible, preventing shadows from covering any of the windows, and allowing ample deck space.

What would be the bow of the steamship, at the south end of the building, is an octagonal, monitor-roofed, open ward. North from the middle of this ward runs a corridor, bisecting the structure, and crossing the main, open-air corridor of the hospital. On the east side of the ward corridor are another open ward, a single and a double room; and also, north of the main hospital corridor, a small laboratory for the exclusive use of the building. On the west lie the service rooms, diet kitchen, receiving bath, and class room. The open ward on the east is separated from the corridor by glass doors only, which can be opened, letting the breeze sweep through from a large door in the middle of the west side of the structure. Room is made for the desk of the head nurse by broadening the corridor opposite this door; there she can see all, and be seen by



all. Surrounding the building on three sides is a broad, concreted terrace, covered on the east side by a pergola, with canvas roof for bad weather. As the doors of all the rooms and wards are wide enough for a bed to be rolled through, and as all beds are on wheels, moving so easily that the nurses handle them alone, the patients spend much of their time, both day and night, in the open air.

On the second floor the southern end, over the main part of the first floor, is occupied by a monitor-roofed, open ward, surrounded by terraces, or decks, amply broad for beds to be rolled outdoors. North of this ward are two bedrooms, the service rooms, bath, and the diet kitchen for the second and third floors. On the third floor the southern part, over the service rooms of the second floor, offers the opportunity for a ward open to the air on the south, there being space for six beds. The rest of that floor is devoted to a room for two beds, bath, toilet, and duty room. This floor can be conveniently used for isolation. A patient, placed on the elevator here, can be landed on the first floor in the open air, never entering the lower ward.

The door of the receiving bath is wide enough for a bed to pass, so that very sick patients can be bathed there in bed. That room, by the way, contains a fumigating closet. All bath tubs are raised high from the floor, for the sake of ease in cleaning and to avoid excessive stooping of the nurse when bathing a patient, and have very large faucets and vents.

The floors, with two exceptions, are of battleship linoleum, soft and silent. The exceptions consist of the portion under the beds in the open wards on the main floor, which is of granolithic, and is heated from beneath by pipes insulated on the sides and bottom, so that all the heat escapes up through the floor. The ward will rely chiefly on this heating.

Ventilation is accomplished, in the main, by natural means, facilitated by monitor roofs. Such means can, however, be supplemented by air forced in by fans, filtered and heated if desired. In the air exits are placed accelerating steam coils.

For the bell call system has been substituted the silent light indicator. Pressing the button lights the nurse's and head nurse's indicators, registers on a time clock, and also turns on a light at the head of the bed. That light can be extinguished by the nurse only at the bedside. Further, extinguishing it registers permanently on the clock the length of time it took the nurse to respond to the call.

The comfort of the patient has been throughout the paramount aim. The large air space per bed is noticeable. The lighting is, for the most part, indirect. Combined with comfort is the maximum of ease in cleaning and in serving, durability, and the minimum of cost. The result is, its constructors submit, satisfactory.

THE ENGLISH NATIONAL INSURANCE ACT.

The Probable Effects of the Act on the Hospitals of the British Isles, and Especially on Those Supported by Voluntary Contributions.

By STEWART JOHNSON.
SECRETARY, GREAT ORMONDE STREET CHILDREN'S HOSPITAL, LONDON.

ON July 15, 1912, the National Insurance Act came into force in the British Isles. Briefly stated, the act provides, in return, with a few exceptions, for a uniform contribution from employer and employed, medical, sanatorium, maternity, sickness, and disablement benefits for all wage earners paid at a less rate than £160 a year, the lowest amount on which income tax is assessed —that is to say, for about 15,000,000 persons out of a total population of 45,000,000. So comprehensive a measure could not fail to produce a most far-reaching effect upon the country, even though pains were taken, to the extent of materially altering the character of the bill, to adapt its provisions to existing conditions. Naturally the hospitals, and especially the voluntary hospitals, one of the chief instruments in the preservation of the health of the nation, did not escape its influence. This influence is two-fold. In the first place, the act threatens to diminish the incomes of the voluntary hospitals. At present one cannot say more than threatens. It would appear improbable at first sight that people, either employers or employed, when they are compelled by law to pay would continue to contribute voluntarily for very much the same purpose. This tendency has for the time being been kept under to some extent by increased efforts on the part of the hospitals to obtain subscriptions, and may possibly in the future be counteracted by the increased in-

terest in the health of the nation which the act will undoubtedly awaken. For the moment it is too early to judge—only the future can decide.

If, however, the act threatens to take away with one hand, it distinctly promises to give with the other. Under its provisions the approved societies[1] and the insurance committees[2] may make donations to the hospitals, and on certain conditions may pay the sickness benefit of insured persons without dependents, or the maternity benefit of insured wives of insured husbands to the hospitals of which they are inmates. The sums received in this way are not likely to be great. At least, although they may be great enough to form welcome additions to the hospital income, they are not likely to make the difference between bankruptcy and solvency.

Under the somewhat misleadingly named "sanatorium benefit" the case is different. Here the hospitals have opportunities for recouping themselves handsomely for what they may lose in voluntary contributions.

Sanatorium benefit is thus defined: treatment in sanatoria or other institutions, or otherwise, when suffering from tuberculosis or such other diseases as the local government board, with the approval of the treasury, may appoint.

Sanatorium benefit can also be extended by the insurance committees to the dependents of insured persons; and, if the insurance funds are not sufficient to defray the costs, the treasury and the county councils may, on application of the insurance committee, make up the deficiency in equal shares. To secure the wise spending of this money, a royal commission on tuberculosis was appointed during the passage of the insurance bill. In its report it advised that any scheme for the treatment of tuberculosis should be applicable not merely to insured persons, but to the whole population, and this advice has been adopted by the government. The money for this purpose is to be provided in the same way as any deficiency under the insurance scheme—namely, in equal shares by the treasury and the borough or county councils, the latter being directed to prepare schemes for their respective boroughs or counties for the approval of the local government board.

In London the insurance committee has announced its intention of handing over the whole of its funds set aside for the sanatorium benefit to the London County Council, who will make arrangements for the treatment of tuberculous persons, whether insured or not, thus securing uniformity of administration, a sensible course which might well be adopted by the other insurance committees and county councils of the country. The councils may build institutions and provide treatment themselves, or they may contract with existing institutions to do so. As the report of the royal commission advised that existing institutions should be made use of as far as possible, it is probable that the latter course will be tried first.

At the moment of writing the county and borough councils are in negotiation with the general and chest hospitals for the admission of tuberculous patients to their wards. The amount that could be earned in this respect by the voluntary hospitals is considerable. At the same time it is recognized that, with the acceptance of money from public sources, there must come a degree of public control, from which the hospitals have hitherto been exempt. In fact, no hospital can admit patients paid for by the insurance committees or the borough or county councils unless it has previously been approved by the local government board, or, in other words, inspected. Moreover, universal experience teaches that when subsidies from the public exchequer are received, private support dwindles. On the other hand, the hospitals can scarcely admit free any patients for whose treatment public money is actually provided, while to refuse the patients is to cut themselves out of the current health movement. With these conflicting motives, the action of hospitals has been very diverse. St. Thomas' Hospital, well endowed, has established a tuberculosis dispensary under the act, but has declined any grant from the public authorities; the Mount Vernon Hospital for Consumption, with small endowment and subscription list, going to the other extreme, has given up the struggle. The committee obtained the permission at the annual court of governors to sell their hospital building, and to apply the proceeds to the maintenance of their country branch, which henceforward will be devoted to paying patients above the insurance line.

Between these two extremes the other hospitals will probably follow intermediate courses. After weighing up the advantages and disadvantages, it seems probable that they will elect to take the payments and the patients, accept the government inspection, and bargain for as small a degree of municipal control as possible. In bargaining, however, the hospitals have to remember that, though for the present they are, so to speak, masters of the situation, owing to the great demand for beds for tuberculosis and the small supply to

[1]The approved societies are composed of insured persons. They may not be carried on for profit, and their affairs must be subject to the absolute control of their members.

[2]Insurance committees are constituted for every county or county borough. Three-fifths of the members must represent the insured persons. One-fifth are appointed by the county or county borough council, the remainder by the insurance commissioners. A proportion of the nominees must be medical men.

hand, yet the insurance act sets aside a large capital sum for the building of sanatoria or institutions, so that in a very short time their commanding position will be lost unless they are moderately compliant.

At present the treatment of tuberculosis only is in question, but, on turning back to the definition of sanatorium benefit, the reader will observe that the concluding words of the section are, "or such other diseases as the local government board, with the approval of the treasury, may appoint." Thus complete machinery exists within the four corners of the act for providing hospital treatment for all diseases for the entire insured population and their dependents, while it has been found unavoidable not to extend this treatment, in the case of tuberculosis, to those persons excluded from the scope of the act.

It will thus be seen that there is no chance of the hospitals perishing for want of funds. As Mr. Lloyd George said to a deputation of hospital managers: "Supposing * * * the sources of subscription were dried up, the hospitals of this country are so essential a part of the machinery of civilization that I cannot imagine any country allowing a single hospital to be closed." But with a change in the source of funds must come a change in the ruling authority. "No taxation without representation" is a principle which no American or Englishman is ever likely to forget. Moreover, with the receipt of payments, in any shape, from public bodies, there must be imported into the voluntary system ideas hitherto foreign to it. The system is based on distinctly charitable principles. The hospitals, on the whole, are supported by one class—the well-to-do—and attended by another—the poor. The members of the boards of management, nominally elected by the subscribers, but in reality coopted by one another, belong as a rule almost exclusively to the upper classes. It speaks volumes for their efficient administration that a system so opposed to the democratic spirit of the age has survived so long and should still continue to give satisfaction. The secret may perhaps be found in the fact that the boards, although responsible in name to the subscribers, have always behaved as though their responsibility were to the general public. Contrast, now, these ideas with the ideas underlying the insurance act. The voluntary contributions of the rich were the expression of sympathy which one individual feels for another less fortunate than himself. The taxation in which the employer now acquiesces is the recognition of the identity of the interests of employer and employed—of the view that the sickness of the latter is an injury to the former. The deduction from his wages to which the employee submits is a premium for which definite rights are expected and exacted, unlike the former workman's contributions which the hospitals have always regarded merely as evidence of gratitude and not in any sense as conferring a right to treatment. Mr. Lloyd George promised the insured persons medical attendance free from the taint of charity. Perhaps he expressed himself badly, or the reporter did so for him. Charity that is given and received in the true spirit is without taint. Nevertheless there is a feeling abroad that charity—or rather what we may call, for short, cash-charity—is or ought to be an anachronism. The introduction into a system in which supporter and patient are different persons—the one rich, the other poor—of a second system in which supporter and patient are one and the same and neither rich nor poor, cannot fail to set up strains which must bring about important alterations in the constitution of the voluntary hospitals.

The system may be said to have been established in the eighteenth century. It is true that there are a few hospitals much older, but a great number arose during that period and formed a model on which subsequent hospitals based themselves. During the eighteenth century popular local government had almost died out, and what local government still persisted was for the most part notoriously corrupt. Such charities as were intrusted to the municipalities were misapplied or despoiled. It was fortunate that at that age the provision of public medical attendance was not considered to fall within the purview of the state or the municipality, but was left to individual philanthropy. In the meantime, moreover, a new system of local government, based on popular representative principles, has spread over the kingdom, poles apart from the debased corporations contemporary with the founding of the first voluntary hospitals. It would be a slander on our modern municipalities to assert that they were less capable of managing a hospital than their counterparts on the European continent. If there is one characteristic in which the Anglo-Saxon race believes itself to excel, it is the capacity for local self-government. Indeed, one knows by experience that many of the hospitals of the councils and boards of guardians in the United Kingdom are admirably conducted institutions. All that one can say is that, good though they may be, none in Great Britain as yet have reached the same pitch of excellence as the voluntary hospitals, thanks largely to the services of their honorary medical and surgical staffs, which their independent position has enabled them to secure. It is, however, difficult to see how such capable

bodies as the present-day borough and county councils can be prevented, once they are paying large sums yearly to the hospitals, from acquiring some voice in their management. What degree of control the councils will desire and obtain is a matter for the future. In their perplexity the managers of hospitals have shown a disposition to look to the colonies and the United States for a solution of their problems. The respective merits of subsidies from state or municipality in proportion to the amount of subscriptions raised, or in proportion to the number of beds occupied, or in proportion to the annual difference between expenditure and income, or in the shape of simple payments in respect of each patient, has been much debated. Each plan has its partisans, but the last appears to be most generally preferred and to be that most likely to be adopted by both councils and hospitals in the case of tuberculous patients. It has the merit, in the eyes of the hospitals, of putting the one who pays in the position of a customer rather than that of a shareholder. The analogy is not quite exact, but it will serve. A customer who pays well has, of course, some influence on the direction of the establishment he patronizes, but of a less intimate nature than the shareholder who can place his representative on the board of directors. Another argument in favor of this arrangement is that there are few voluntary hospitals which do not serve areas larger than those of local government. Where, as in the case of the poor law and fever hospitals, admissions to institutions are restricted to the inhabitants of definite localities, there arise constant disputes as to settlement and liabilities; whereas no shop, if we may liken a hospital taking in paying patients to such an establishment, cares where its customers come from. If, however, such a plan is unacceptable, some other plan must be found. It is obviously impossible, for example, that the score or so of borough or county councils which sent patients to the hospitals of the metropolis can place representatives on the boards of the round hundred institutions within their boundaries. The only way to meet the difficulty would be to create district hospital boards, responsible for much wider areas than those at present ruled by any borough or county council. On such a board representatives of the several bodies of ratepayers, the voluntary subscribers and the trustees of endowment funds might jointly sit, with the added advantage of removing the hospitals a step from party government. Some such system has been recently adopted in New Zealand, a pioneer country in social experiment, the working of which will be followed with much interest in the mother country. It must be confessed that it would be something of a revolution if the voluntary hospitals were to participate in such a scheme. Hitherto the voluntary system as it has flourished in Great Britain has been marked by the ultra-independence of the individual bodies. No institution has tolerated outside control nor has attempted to interfere with the independence of other institutions. One and all have declined to surrender any executive power to a central body even composed of their own representatives, and they have frequently stood aloof when they might have been excused for giving their advice unasked either to the legislature or to other charities. As the modern Congregationalists, the descendants of the old Cromwellian independents, are in the ecclesiastical world, so are the voluntary institutions in the hospital world. Yet there are signs of departure from this exclusive attitude. It is a maxim in politics that the strength of the central government varies directly with the pressure on the frontiers. The voluntary hospitals have begun to feel the pressure on their frontiers, and, although the pressure has not been sufficiently great to induce any of them to part with a shred of executive power, yet it has been enough to drive them to take counsel together.

Conferences, both local and general, of hospitals have been frequent since the introduction of the national insurance bill. The British Hospitals Association was started about three years ago, and has rapidly enrolled the majority of voluntary hospitals as members. In the intervals of meetings interchange of information between the various hospitals by letter as to each other's doings is incessant, and makes quite a tax on the correspondence department of the offices. Every system, however good, has the defects of its qualities. While the British system, by extreme individualization, has produced examples of excellence hard to be surpassed in any other country in the world, it also misdirects much of its energy through lack of coordination. The hospitals of England resemble a fleet of splendidly manned and equipped vessels without an admiral; or, to compare things not small with things still greater, the United States of America before the work of Alexander Hamilton. At present each unit of the hospital community pursues its own course of action, subject only to the controlling law, that like stimulations tend to produce like reactions in bodies of kindred constitution. Could, out of the general stir which national insurance has set up, some well-balanced system be evolved, in which the several institutions might preserve a measure of that independence which has proved so exhilarating in the past, while directing their exertions

under joint guidance to some common and recognized aim, then the more remote consequences of the act may be of even greater utility than those which are nearer and more obvious.

Few countries that profess to be progressive are more conservative than Great Britain. Its people do not change their ideas very readily—it is rather the people themselves that change, by death and birth. It may be, therefore, that a generation will elapse before these changes are complete, although a change of some sort come there must.

ADMISSION OF TUBERCULOSIS CASES TO GENERAL HOSPITALS.

By THEODORE B. SACHS, M. D.
PRESIDENT MUNICIPAL TUBERCULOSIS SANITARIUM, CHICAGO, ILL.

IN a comprehensive plan of cooperation for control and gradual reduction of tuberculosis in a community, the general hospital has an important function to perform. Its present state of disassociation from the general movement, resulting from the policy of exclusion of tuberculosis cases, is unjust to the patient, to the institution itself, to its medical and nursing staffs, and to the community at large. The policy was born in fear based on misconception.

Tuberculosis belongs to the group of communicable diseases, the contagion of which operates within limited space and is easily localized and rendered innocuous. In this respect it does not differ from pneumonia or typhoid, admissible at present to all general hospitals. With strict adherence to hygiene, consisting chiefly of precautions during cough, efficient disposal of sputum, and the necessary disassociation, in case of open tuberculosis, from other patients, the tuberculosis case resolves into a problem by itself, unaffecting others.

There are no valid reasons why certain classes of tuberculosis cases should not find room in general hospitals, and this with great benefit to the community and the institution itself. A small ward, a few private rooms, a separate serving pantry and dining room, and separate toilet facilities in case of "open" cases will furnish all the necessary facilities.

In main, the following classes of cases should be provided for:

1. Cases for diagnosis. In this important particular the general hospital can render a great service in the tuberculosis movement. With their modern clinical and laboratory facilities, and resident staffs eager to study, general hospitals should have tuberculosis "diagnostic" wards or rooms, into which doubtful dispensary and private cases could be admitted for short periods of observation. Such wards are particularly essential in hospitals connected with teaching institutions, but just as important in all general hospitals.

2. Cases with suddenly developed grave manifestations, as pulmonary hemorrhage, etc. Temporary admission of such cases into private rooms or special wards, and their retention until the subsidence of the grave disturbance, and subsequent removal, if necessary, to a special institution.

3. Admission of all cases of tuberculosis into hospitals possessing special wards and rooms, with all its accessory arrangements.

Of the important reasons dictating the reversal of the present policy of exclusion of tuberculosis cases, the following should be mentioned:

1. The great importance of cooperation of all medical institutions in the diagnosis of tuberculosis cases in curable stages.

2. The great need of all available hospital space for cases of an extremely widespread disease.

3. The great importance of training medical and nursing staffs of general hospitals in the method of prevention and care of tuberculosis cases.

4. The advantage of the policy of admitting tuberculosis cases into specially designated wards or rooms instead of the present policy of surreptitiously admitting such cases into general wards.

5. The vast importance of teaching tuberculosis to students in hospitals connected with teaching institutions.

The question of admission of tuberculosis cases into general hospitals should be thoroughly analyzed and dealt with without prejudice at meetings of medical staffs of general hospitals all over the land.

Mattress for Infants.

Mrs. Emilie Eschle has devised what appears to be a simple and practical "take-down" mattress which may be used for infants, or in cases where there is likely to be much soiling. As described in the *Zeitschrift fuer Krankenanstalten*, Vol. 9, 1913, No. 22, the mattress cover, instead of being sewed as usual, is, by means of suitable perforations, made firm by passing tape or a heavy cord through them, and any desirable filling may be used. To clean the mattress, it is merely necessary to remove the tape, empty the filling, and wash the cover. A still more advantageous model is one where the cord or tape is not passed through and through, but is simply passed so as to connect the opposite folding flaps.

SOCIAL SERVICE IN THE HOSPITAL.

By REBA SHAEFFER, R. N.
CHIEF OF THE SOCIAL SERVICE BUREAU, MICHAEL REESE HOSPITAL, CHICAGO.

STATISTICS are essential in every line of work, but social service cannot be told in figures; we deal too intimately with the human being, with his pains and sorrows, his fears and hopes, and these cannot be arrayed and tabulated. Nor can we assign each effort to its own position of importance. Which is relatively more important—to ease a mother's agonized mind as to the condition of her little ones at home while she is at the hospital, to obtain financial aid for a family whose main support is in the hospital, or to send a patient to a convalescent home so that she may build up and so be prepared to take her place again in the home, in a fit condition to resume her responsibilities? Who can say? There is no rule which can be used to gauge the importance of these things. It is the work itself which looms up far above any classification.

Our free patients are, in the main, foreigners. They come to the hospital as to a place on the portals of which, to their minds, is written, "All who enter here leave hope behind." They know nothing of the routine or the rules of the place. They come because pain and suffering leave them no alternative. Because of their ignorance they are distrustful. It is hard for them, who have been so harried by environment and circumstance, to believe that anybody would do aught of good for them without an ulterior motive.

They are too accustomed to the quid pro quo to, at first, give their confidence freely without wondering at the interest displayed in them for seemingly no reason except that they are sick and poor. But finally patience and the fact that they are addressed in their own tongue melts all barriers and they grow utterly dependent on our offices, so dependent, in fact, that they bring all their difficulties to us to untangle. All bodily, mental, and domestic ills are put before us with the utmost candor, and with an implicit confidence that we will find a panacea, no matter what the trouble may be.

Of all the problems brought to us, the hardest to solve is what to do with the unmarried mother. The first thing we try to impress upon the mother is that her duty toward the child is greater than any she may owe her parents or herself. This is not always easy. At first she feels only fear that the hard, uncompromising world may find out her disgrace and give no quarter. It is only by making her realize that we are not setting up as judges; that we do not feel that we can cast the first stone; that, while we know what wrong was done, we cannot compute the temptation resisted, but are ready to meet her as sister women, to stretch out the helping hand of sympathy and understanding, so that we can reach her at all.

Then, after the premise that the mother must and ought to keep her child is established, and the mother begins to feel less like a hunted animal, the other steps of the problem must slowly be worked out. And that same world that seems so unyielding and hard when taken in the aggregate resolves itself into sympathetic units. Often there are people willing to take into their own homes and help and encourage the poor girl to regain her self-respect. It is our work to forge the link between these good people and the girl who needs them.

Social service work, to be successful, must be the epitome of interest, sympathy, and wide understanding. Social service, working out of a hospital, differs just a little from other forms. We deal hardly at all with the patient as a nurse would do—the hospital and the doctors and the hospital nurses do that. But the patient is not afflicted only with a bodily disease; he or she has a family at home—perhaps small children, with no one to care for them. Perhaps there is no food or no fuel; perhaps there is a peddler's little stock of perishables, or a peddler's poor horse that is without food. Perhaps there is sickness at home as well as in the hospital. Then the patient is not only physically ill, but heart-sick with anxiety—for the poor have hearts also, and are capable of mental suffering, however much we, of the hard world, are schooled to think to the contrary.

It is our part to visit the sick one as soon as he is admitted, speak to him in his own language, win his confidence, and find out about conditions at home; find out what he is worried about, for almost every poor patient brings with him into the hospital some anxiety, something to worry about. Then we visit the home; if there is a sick wife or a sick child, we send a visiting nurse at once. If there is no food, we go and get some. In the meantime we telephone to the head nurse of the ward at the hospital, giving her a message for the patient, telling him just what we have done, and we put into the message some little personal touch, or a message from someone at home, so the patient, as yet distrustful, will know he is not being deceived.

We do not quit the home until everything is in

good order. Then, after our morning rounds are over, we go back to the hospital and see the patient again and tell him all about the happenings in the home and what we did there.

If it is a child that is ill, the mother must be visited at home, and how eager and anxious she is to know all about the little one—what the doctors say, and what the nurses say. It is very hard sometimes, because there is no good message to bring—only more heart-ache if we tell the whole truth, and, if we do not tell the truth and the worst happens, we have done a double wrong —to the mother, whose grief is mixed with anger, and to ourselves because we forfeit that confidence so necessary if we are to succeed.

When the patient is discharged we must get orders from the doctor and go to the home to see that the orders are set in motion—food for convalescence, sanitation and hygiene; and, again, we must help, so that everything will be a little better for the convalescent's comfort and peace of mind.

The doctors tell us our work does very much for their patients in helping toward recovery, and they wonder how they ever got along without us.

THE OWNERSHIP OF X-RAY PLATES.

Patient and Medical Attendant Entitled to Radiologist's Opinion and Not the Plate.

By E. H. SKINNER, M. D.
KANSAS CITY, MO.
RADIOLOGIST TO THE SWEDISH HOSPITAL, ST. LUKE'S HOSPITAL, AND MERCY HOSPITAL; CONSULTING RADIOLOGIST TO THE KANSAS CITY GENERAL HOSPITAL.

THE ownership and possession of x-ray plates is an important matter. First and foremost, let it be established that the x-ray plate itself is not so important as its interpretation. The x-ray plate is a means to the end in that it furnishes the tangible evidence on which the radiologist bases his diagnostic opinion. To the layman and to the physician unfamiliar with x-ray interpretation the x-ray plate is valueless. In fact, the x-ray plate without careful interpretation may be harmful to the patient and embarrassing to the attending physician.

Granted that the x-ray plate is the basis of the radiologist's opinion, it is absolutely essential that he keep all plates carefully filed in his laboratory, so that he may constantly have access to these records in case of dispute. Patients change physicians, and the x-ray findings should always be available. The relation of the radiologist to the patient should not be altered even though there be a change of attending physicians. The radiologist conducts his examination at the suggestion of the attending physician, but the fees are paid by the patient to the radiologist direct. The radiologist must never consider that he is privileged to advise the patient regarding surgical or medical treatment, and his diagnostic opinion should always be delivered to the attending physician, whose helpmate he is.

There are two other points which may be raised:

First, what should be the attitude of hospitals where the x-ray laboratory is conducted by a radiologist in the employ of the hospital? Here the responsibility rests with the hospital, and all x-ray plates and records should be the property of the hospital, and the radiologist can have no claim upon them. These hospital x-ray records should still be available to the patient if attending physician be changed, or if they will be of any legitimate value to the patient.

Second, the attending physician may make his own x-ray examination. In this case the x-ray plate still remains in the possession of the physician as a part of his records of the case, and in this event there may be some justification in declining to convey the x-ray information to a subsequent attending physician, especially if there has been no individual charge for the x-ray examination. If, however, the patient is not seeking to embarrass or malign his former physician, we cannot conceive of a liberal-minded physician denying such x-ray information or at least an inspection of the x-ray plates to his successor in the attendance on a former patient. Nevertheless, the strict analysis of the situation appears to warrant the ownership and possession of x-ray plates and their interpretation by the physician who has conducted the x-ray examination at his own expense just as he has made a urinalysis or an orificial examination.

Another phase of this subject presents itself in the sketches or reproduction of fluoroscopic shadows obtained by the radiologist in the fluoroscopic and orthodiagraphic examination of the chest and abdomen. The disposal of such material lends itself to the same arguments as x-ray plates. These are records of the case on which

an opinion is based, and are therefore the property of the radiologist, who may convey his opinion or exhibit the records at the request of the patient, exhibiting due regard to the ethics of his relations to the previous attending physicians in the case.

Still another point of interest is the demand by the patient for a print or reproduction of the original x-ray plate. There should be no objection to advancing a print to the attending physician, which is to be attached to his case record. Again, insurance companies and railroads or other corporations may legitimately expect and receive reproductions of any x-ray plates and records which can be filed with their otherwise complete data in the case. Whether the patient should be accorded a review of such diagnostic data should depend on the wishes of the parties who are paying for the x-ray services. The radiologist, who is or always should be a physician, must jealously guard any information he obtains for the benefit of the client who asks his opinion for a consideration.

At the best, any print reproduction of an x-ray plate is not as good from a pictorial standpoint or for diagnostic interpretation as the original negative. Therefore the print will do the patient no good whatever. He cannot interpret it, and can enjoy it only as a matter of curiosity. The family album or the parlor table is no place for reliable x-ray evidence. Furthermore, the possession of an x-ray print by the patient or friends leads to all manner of mischievous interpretation by whomsoever it is inspected. The patient should always be received by the radiologist as if seeking an opinion based on x-ray findings and not as if applying for an x-ray photograph. The patient has no more right to expect or demand an x-ray print than he has to receive a photomicrograph or pathological slide from his pathologist.

Certain authorities can now be cited to maintain radiological records in their rightful position. The American Röntgen Ray Society passed a resolution at the annual meeting in 1910 which reads as follows:[1]

"Resolved, that the American Röntgen Ray Society indorses the views presented in Dr. Stover's paper, vesting a property right in the radiogram with the radiographer, inasmuch as the radiogram is a part of his clinical record of examination."

There are certain situations in which the possession of the x-ray plate is embarrassing, especially where a patient is seeking revenge at law for the faulty treatment of a fracture. It is always possible for a lawyer to serve a subpena duces tecum and compel the radiologist to present his x-ray record and plates in court, however unwilling he may be. If the radiologist in private or hospital practice makes it a rule to receive patients only by reference from the attending physician, he will be relieved from many unpleasant court experiences in malpractice suits. One should always be suspicious of persons who apply for radiographs of a fracture without proper introductions, because, if the radiologist has made any examination whatever, his appearance in court can be demanded. Many lawyers have used x-ray plates showing distorted or abnormal fracture shadows to impress the jury when the functional and clinical result of the fracture was all that could be desired. Many times when the patient has been shown his x-ray plates, and he is cognizant of the abnormal anatomical position, he is prone to minimize his functional result and prolong his convalescence until after his lawsuit is settled. Many radiologists are prone to unintentionally or unconsciously magnify the anatomic discrepancies in a case, and fail to interpret with due regard to the functional prognosis. Inasmuch as a hospital is responsible for the acts of employees, radiologist included, it is necessary to see that the written reports on x-ray examinations are not burdened with too much gratuitous surgical information, especially in large city hospitals, where so many people apply for fracture treatment who are liable to seek redress for supposed injurious treatment at the hands of an indulgent staff, or from their employers, or public corporations responsible for the injuries. The x-ray written report is usually attached to the complete case record, and becomes available for inspection on proper demand. A report which was full of x-ray information to the surgeon might be distorted into a criticism by an unscrupulous attorney in court. Such complications should be avoided.

The great increase in x-ray installations over the whole world demands careful attention to the ethical relationship of the radiologist to his professional clientele or to the hospital in which he serves. A nonmedical x-ray operator should never be permitted to give a medical opinion; his position is to furnish x-ray negatives and maintain efficient fluoroscopic apparatus for his medical and surgical superiors. Radiology as a specialty demands one who has been trained in the fundamentals of medicine and surgery; the mechanical side of radiology is secondary. From such a radiologist the profession may obtain x-ray interpretations of value, and expect an appreciation and maintenance of an ethical understanding.

A Philippine woman recently gave birth to her twenty-first child in the Manila General Hospital.

There died in the Philippine Islands last year 50 persons over 100 years old.

The MODERN HOSPITAL

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Salutatory.

There are in the United States 6,665 institutions of record for the care of the sick, with a total capacity of more than 600,000 beds. By a modest estimate, these huge figures represent a money investment in land, buildings, and equipment of not less than $1,500,000,000, and an annual outlay for maintenance approaching $250,000,000.

On the human side, there are more than 100,000 trustees of hospitals, and more than 65,000 physicians on hospital medical staffs. About 10,000,000 men and women contribute annually to hospital funds, and approximately 9,000,000 men, women, and children are patients in the hospitals in the course of each year.

The hospital, in its broader sense and in its many aspects, has already become a powerful influence on society, if indeed it is not now the chief factor in a process of remolding and remaking the modern social fabric; its benign influence must be exerted in the future to divert the attention of the people away from the sordid pursuit of personal gain and selfish pleasure, and into an atmosphere pervaded by higher motives and more altruistic ambitions. But as yet there has been no welding together of the forces and influences that, even working separately and oftentimes in diverse directions, have such magnificent results. What may, then, be expected if all these agencies can be correlated and harmonized, and made to progress in one direction and toward a common beneficent goal?

There is so much to be done. By common consent, based upon the needs of the time, it is decreed that there shall be a bed in a good hospital for every sick and hurt man, woman, and child, and that every resource of medical skill, seconded by the highest order of trained nursing, and aided by all the arts and sciences, shall be at the service of rich and poor for the cure of disease. But it is no longer enough that those who can shall merely help to cure disease; the time is come when the prevention of disease looms larger than the cure, and in this field the hospital must show the way, again by the aid of the sciences and the arts, directed along the lines of hygiene, sanitation, pure living, and right thinking.

Even here the hospital finds no pause. Men were not born free and equal; the scales of justice have not weighed for all alike; the gentle dews of heaven have not rained down upon the just and the unjust in even portions; and so it becomes the task of today and the duty of the hospital, again in its larger sense, to help overcome the irregularities of birthright, to even the balances that have weighed so badly, and to bring to the lowly and the oppressed the beneficences of Faith, Hope, and Charity.

The social service of today is no charity, but a meager and halting attempt to mete out a common justice, to right the wrongs which are the accumulated transgressions of all the ages. Social service is a new human melting pot, wherein the weak and the poor and the unfortunate are blended in the warm fires of a common brotherhood with the rich, the strong, and the self-reliant; and the process must bring forth a new humanity, a new moral code, a new religion. These are the appointed works of the hospital of the future, and it was with some such thoughts as these that a few hospital administrators have banded themselves together to give hospital workers everywhere a bond of union, an agent for the collection and dissemination of experience and knowledge concerning their common service to humanity.

THE MODERN HOSPITAL is offered by the men who compose its editorial staff as this agent. They make no pretense of leadership; it is only their hope that the hospital world may find in the new agent a vehicle of expression that will bring into wider usefulness the experience and the learning of each individual, to the end that these may become the common harvest of all.

In the splendid work of bringing to fruition the

noble purposes of modern philanthropy, it is the highest ambition of THE MODERN HOSPITAL to be one of the humble agents. If it shall be the means of bringing into a single hospital, or sanatorium, or asylum one item of efficiency that shall add to the comfort and happiness of a single human being, its workers will be proud of their part; if through its efforts there shall come a higher order of service to the sick and suffering everywhere, their highest ambitions will have been achieved.

The Hospital as a Factor in Modern Society.

The changed circumstances of living at the present time have brought about corresponding changes in all institutions, and especially in the relation of the hospital to the community. The crowding of people into cities has destroyed the old village methods which characterized city life during much of the nineteenth century. Then the sick were cared for almost wholly in the home, and were nursed by members of the family. When the family became exhausted by the strain of long-continued nursing, it was customary to call for assistance upon neighbors and friends, particularly for the care of the sick at night. Every man of advancing age can remember the demands made for watchers at night, and persons often wholly inexperienced in such duties were pressed into service, with little advantage to the sick. If people were friendless and destitute, they were transferred to hospitals, if such existed, where they received indifferent medical care and more indifferent nursing. If there happened to be no hospitals, they were sent to almshouses, where the conditions were wellnigh hopeless.

The trend toward the city and the increased cost of living, together with the necessity in many instances that women should engage in wage-earning occupations, have done away in great measure with the home care of the sick. Added to this also is the conviction on the part of the entire community that hospitals furnish better care and nursing, and as a result the hospital and the hospital nurse have superseded the home and the family in the care of cases of acute disease.

Home conditions are also changed. Fewer families occupy a single dwelling, and the tiny flat or contracted apartment house no longer is sufficient to accommodate sick members of the family. Economic conditions are no longer favorable to home care, and recourse to the hospital has become necessary. It is not strange that the hospital has flourished in every community, both large and small.

The increased number of diseases also which require surgical interference has likewise rendered necessary the multiplication of hospitals. Such cases cannot be operated upon and safely treated at home without prohibitory expense.

The popularity of hospitals has also unquestionably been due in no small measure to the trained nurse. She replaced the hospital orderly and the unskilled woman of the servant class who formerly reigned supreme in all city hospitals. They were usually persons of questionable antecedents and of uncertain habits. The growth of the trained nurse in numbers has also tended to displace the old-fashioned family practitioner, who frequently in the old days combined many of the duties of the nurse and physician. He is no longer as important in the family, and his position as a watchdog of the health of its members has been taken in many instances by the trained nurse. The hospital has fostered, in its turn, the development of nursing, and it is not strange that both rich and poor profit by the skill and tender care of the trained nurse.

What has been the influence of these changed conditions on the community at large? Unquestionably there is less amateur nursing and less personal service to the sick from the "natural-born" nurse and the motherly men and women who formerly were regarded "so good in sickness." The lack of opportunity to render this personal service has unquestionably been a loss to those who formerly rendered it, and in consequence there is less development of their kindly inclinations in this philanthropic direction. The work which they formerly performed is much better done by the hospital and the trained nurse. The sick are better cared for with less waste of energy, and their presence in the home does not interrupt the occupations and exhaust the means of wage earners.

There is also much more systematic effort to prevent the spread of disease and to seek out its causes. Hand in hand with such preventive measures are the labors of the social worker to assist the convalescent patient when he returns to his own home, and to relieve the tendency to chronic disease and resulting poverty and suffering in the family, which might otherwise follow.

The influence of the hospital on the community thus becomes a permanent and lasting agency for health and social betterment. Hospital methods must improve in order to serve more perfectly the needs of the public—and they will improve. The day of the general home care of the sick can never return. Social conditions forbid the possibility that hospitals will become superfluous.

HENRY M. HURD.

The Real Hospital Problem.

In a recent number of a journal "devoted to the promotion of economy and efficiency of hospital planning, construction, equipment, management, and allied work," there are twenty-two headings to editorials or articles. Of these only ten do not deal specifically with nursing, and twelve deal entirely with discussions of nursing problems, as indicated by the following list of headings: "How to Keep Well on Night Duty," "Nursing Control in Arkansas," "Boards of Nurse Examiners," "Nurse Teaching by Mail," "My Search for Ideal Nursing," "Preliminary Nurse Training," "The Nurse at Home," "The Value of Discipline," "Responsibility in Nurses," "Some Routine Hard Work," "Hospital Experience from a Patient's Bed."

The journal referred to is not a nursing journal, as one might suppose. This is not intended as a criticism of the journal, but simply to call attention to the fact that, considering the large number of hospitals, superintendents, and officials, and the unlimited number of problems to be discussed, the conclusion would seem to be justified that nursing is the one subject that most writers feel competent to discuss or are interested in, or we hospital officials are particularly barren of new ideas, or particularly apathetic, or have little or no interest in contributing anything for the benefit of our colleagues.

Now, here is another hospital journal, and let us see to it that interesting papers and discussions are forthcoming for publication. Surely there are a sufficient number engaged in hospital work who have some new ideas, some new methods, or something to say which might be helpful to "the other fellow," and which might make our hospital journals really interesting and relieve them of the necessity of filling space with this everlasting discussion on nursing.

To continue this thought a little further, why not leave the nursing problem alone for a little while, and acknowledge that it is safe and better handled in the hands of the nurses? We all admit the development of nursing to be one of the great achievements of our hospitals, but let us ask ourselves at the same time, Mr. Superintendent and Mr. Practicing Physician, what we have ever contributed to this splendid development. Why should not boards of examiners be composed of nurses? They are more competent for the work, and at least are no more susceptible to corruption and influence than boards of men. Why should they not be active in legislation for safeguarding their profession? They have made it what it is. Why not be honest, and, if opposed to maintaining high standards, to registration, and all the nurses want, say that we are opposed because it may mean that our institution will have to pay more for the nursing, or because it may mean some very careful study in readjustment? Let us not try to deceive ourselves and others in the belief that our opposition is because of our interest in the nursing profession or the public. No one who knows is deceived. Let us meet the issue fairly and squarely, and let us pay more attention to the big problems waiting to be solved—social service in your hospital, medical organization in mine, efficiency in general, and the part our hospitals are to play in preventive medicine of the future, and the possibilities of the hospitals for a broader, more efficient usefulness in the service of public health and safety.

WINFORD H. SMITH.

American Hospital Statistics.

There are probably few more important problems affecting the interests of the general public and the medical profession than the scientific tabulation and qualified analysis of our hospital statistics. It cannot be denied that at the present time, with the single notable exception of Johns Hopkins, of Baltimore, the annual statistical reports of our hospitals are of practically no real utility whatever for the many useful purposes which they could be made to serve. Considering the modern tendency toward governmental interference in *all* that has a bearing on problems of public health and disease prevention, it is obvious that the time cannot be far distant when the subject of hospital statistics will be taken up by the federal and state authorities, if only for the preliminary purpose of determining the true incidence of institutional morbidity. As a nation we are rapidly coming to the conclusion that the problem of preventable sickness is at least of equal economic importance with the recognized problem of preventable mortality, and from no source is there even a remote chance that more useful information can be derived than from a qualified statistical tabulation and analysis of our hospital experience. It is, therefore, most lamentable that at the present time, with the single exception of Johns Hopkins, our hospitals, large and small, should present to publicity annually a mass of ill-arranged and ill-digested data, instead of realizing that the experience of any institution and of all institutions combined is a matter of profound importance to the public and the medical profession. It would, therefore, seem that among the many useful functions that THE MODERN HOSPITAL can be made to serve, there are few, if

any, of greater practical importance than the scientific and uniform tabulation of hospital experience, in conformity to accepted principles of statistical arrangement and the standardized nomenclature of disease. At the present time it is readily conceded that the annual reports of Johns Hopkins represent the most readily attainable ideal in statistical practice, and that the Bellevue classification of diseases and surgical operations is the most correct for the needs of the general public, public health officials, and the medical and surgical profession generally.[1]

F. L. Hoffman,
Statistician, Prudential Insurance Company.

The Sanatorium—The Ideal and the Real.

It is a peculiar fact that the sanatorium, as it was conceived very many years ago and as it was idealized, was a very far step in advance of the common institution practice of the time. In theory the early sanatorium was an institution for the cure of the sick by the substitution of rest and quiet, fresh air, proper food, and a well-modulated amount of wholesome exercise for the inordinate amount of medicine that was the practice of the day. We have now caught up with this ideal in the general hospital, and every thought of the modern hospital builder hinges about these fundamental requirements of fresh air, rest, and quiet, good food and wholesome exercise.

Where is the sanatorium today? Has it kept the pace? Even the name has fallen into disrepute and the small handful of institutions that are upholding the high ideals on which the sanatorium principle set out are now "hospitals." Many sanatoriums have descended to mere money-making concerns, and the only attempt to maintain a highly developed technic is in the business office, and concerns the devious ways by which money may be extracted from those who are suffering from a class of ills that render them peculiarly susceptible to "mental impression."

And yet the sanatorium principle is as virile, as sound, and as necessary today as ever. It has, and must continue to have, a large place in modern therapy; the country, trees, flowers, sunshine, fresh air, pure fresh food, and rest and quiet are growing necessities of the sick, all the more so because the strenuousness of the modern life and the intensity of modern activity have swelled the ranks of the nervous, the dyspeptic, and the anemic. But it no longer suffices that we merely nurse, feed and amuse the sick. The physician demands an accurate diagnosis, so that he may properly direct his treatment, and to give him that diagnosis there must be facilities. Therefore, the sanatorium that would ride to high success on the popular wave of enlightened public opinion must include in its equipment an adequate laboratory of pathology in all its branches, and the proper accessories for hydro- and physico-therapy.

But first, and most prominent of all, the modern, efficient sanatorium must command the services of trained, scientific men, who know how to employ its efficient equipment, and how to evaluate the results of their work. Psychiatry and neurology and neuropathology have gone far forward in these last years, and diseases hopelessly beyond scientific aid a few years ago are now well within the hand of the specialist—and the sanatorium is his logical agent.

THE MODERN HOSPITAL sets out upon its career the avowed and loyal friend of sanatorium principles, and the friend of those institutions that are making reasonable effort to realize their opportunities. It purposes to help in every way. To this end it has been fortunate, indeed, in engaging the interest of Dr. James G. Mumford, of Harvard Medical School, and director of Clifton Springs Sanatorium, who will represent the sanatorium interests in the editorial staff.

Dr. Mumford's article in this number on "The Sanatorium—Yesterday, Today, Tomorrow," is intended to be the introduction to a campaign for better sanatorium conditions everywhere. Editorially and otherwise Dr. Mumford will hereafter follow up his subject and prosecute his campaign. Those of the sanatorium folk who believe there is work to be done in such a field will help Dr. Mumford by contributions for his pages, by their criticism, either of his own opinions or of prevailing practices, and by their moral support.

John Allan Hornsby.

The Boston Meeting.

The American Hospital Association meets in Boston this year after an absence of eight years. Many things have transpired in that short time vitally affecting the hospitals and the association.

In 1905 the association numbered only a few superintendents and was two years old. Today it numbers more than a thousand men and women—superintendents, medical staff members, trustees, and philanthropists.

All these years the association has been meeting as one body for all its sessions, if the "question box" sessions are not counted. This year's meeting will be signalized by a recognition of the

[1]For a more extended discussion of the subject see a forthcoming Bulletin of Johns Hopkins Hospital on the experience of that institution for the last twenty years.

necessity for sectional meetings, the divisions being into large and small hospitals.

In eight years some hospital construction changes have occurred. The vacuum system for ventilation, for cooling and warming air, has come and gone. We closed the windows about eight years ago and lived on air from the dank, damp sub-basement for a while; but again the windows are open, and fresh air and God's sunshine and breezes are no longer tabooed. Composition floors and battleship linoleum, now with us, give promise of a permanent stay as do steel window and door frames. Metal wall cabinets are good additions, taking the place of costlier furniture that took up much needed room. Typhoid stool sterilizers have been perfected as a part of the utility room architecture, ward incinerators and blanket warmers are new since the last Boston meeting and have their place. Not very many other specific improvements have been made.

And, yet, the whole hospital situation has changed in those few years. But the change has been in the direction of efficiency rather than in specific principles. Very few hospitals made any pretense of conducting a laboratory of pathology eight years ago; now there are hundreds that are doing real work. Operating room technic that was to be relied on was limited to a comparatively few hospitals; now good technic is the rule. There were not three diet kitchens in this country worth mentioning; now there are hundreds that are capable of working with the clinician in metabolism.

In eight years we have come to think a little less about the amount of money we spend in our institutions, and a little more about the service we give to the doctor and his patient.

It would be a bold prophet who would attempt to picture the changes that will take place in institutional practice in the eight years to come. But it might not be a bad thing to think a little way into the future of the American Hospital Association.

A great move forward was made this year when the officers of the association recognized the principle of the section meeting. We can never go back now; the swaddling clothes, once discarded, can never be worn again. Then, how are the sections to be divided for the future? Into topics or into classes of people? Or how? Shall we have a section on scientific departments, on nursing, on hospital help, on food, on the mechanical things? Or shall we have a section of trustees, another of medical staff members, a third of superintendents, and so on? Or, instead of sections and section meetings, shall we have sessions of the whole membership and take up separate topics in the way of the symposium? The meetings are too large, and too few people have an opportunity to be heard on the floor.

We are face to face with one other problem just now. The officers this year recognized it when they divided the Boston meeting into sessions for large and for small hospitals. The problem is how to cultivate a broader democracy in the association. Too few people have a voice in the management of the association. There is not the wide difference between the small and the large hospital today that there used to be. There was a time when the small hospital stood for poverty and mediocrity. That is not true now, and there are hospitals of fifty, one hundred, and two hundred patients that stand for quality of service and high ideals, and are quite as well supported by their patrons as the large, magnificently endowed institutions; and these hospitals are manned by as cultured, scientific men and women as the large institutions.

Then, there are the very small hospitals owned by medical specialists and superintended by high-salaried men and women. Some of these hospitals have only a few beds—10, 25, or 50—and yet they stand for something very real and very substantial.

So let us break away the barrier between the large and small hospital, and in its stead raise another that shall divide the good hospital from the bad. And it would seem that this new alignment might come by way of the distribution of the honor offices in the association, in some such manner as the following: a president to be elected by the whole membership of the association; a vice president for each state in the Union, to be elected by members of the association in the several states and sent on to take his office at the annual meeting.

Such an alignment will encourage state organization, give permanency and strength and authority to state effort in any deserved direction, and serve to weld the different parts of the country together for mutual protection and progress.

England's Hospital Situation.

We, in this country, have almost been led to believe, because of constant iteration, that the hospitals abroad have settled all the problems with which we are vexed, and that only we are groping in the dark. That this is not by any means the case may be gathered from Dr. Crookshank's masterful report of the recent hospital conference at Oxford, to be found elsewhere in this number.

The problem of tuberculosis in the general hos-

pital, which the Oxford conference debated, happens to be a very lively topic with us just now; and it is rather timely, therefore, that Dr. Sachs' paper on this subject also appears in this number. It is interesting to note the similarity of sentiment in the Oxford discussion with the position taken by Dr. Sachs.

Let us congratulate ourselves that we have progressed beyond the status of England in the matter of hospital accommodation for persons of means.

We may note with sympathy that England also has her hospital architects who blunder. This is not the fault of the architects, either here or in England; it is the fault of trustees who are charged with the expenditure of money that should be almost holy, since it is intended for the most sacred of purposes—the amelioration of human suffering. In many hospitals built in this country the architect is selected for some other reason than that of fitness. That such an architect should be able to swing around the circle, skimming the surface of hospital architecture, and go home qualified to build a hospital, is, of course, preposterous; and it is equally absurd to think that a dozen sets of blue prints of hospitals he has visited, carried home in his trunk, will give him the master's degree as a hospital architect. But we are learning in all these things, and that our older cousins across the water are groping in the haze of the same perplexities may serve as a stimulus in the search for the clear light of a better day.

Our Department of Queries and Answers.

In other pages of THE MODERN HOSPITAL will be found questions and answers concerning hospital problems. It is obvious that these questions were not sent in with the expectation that they would be answered in this manner. As a matter of fact, all the questions discussed have been received by a member of the editorial staff within the past few weeks, and it has been deemed expedient to answer them in the journal for several reasons: (1) It is no small task to verify one's personal experience and general knowledge on any subject so that it shall be technically as well as broadly correct for the profitable use of others, and the questions are, as a rule, of such character that their discussion should be of wider interest and profit than a mere personal answer would satisfy. (2) It is contemplated that the present number shall open a permanent department of "Queries and Answers," and readers are invited to use the department either to ask questions or to discuss subjects already answered and concerning which there can be a difference of opinion. In other words, if a reader shall find that some question has been answered in a manner contrary to his or her own experience, a further discussion of it is invited.

In the conduct of this department the usual procedure will be to refer each question to that particular member of the editorial staff whose experience would seem to best qualify him to give an authoritative answer. In the event of a question coming in that would seem to call for very special knowledge not possessed by a member of the editorial staff, it is intended to call for expert counsel outside the staff. Whenever admissible, answers will be signed, so that readers may have authority for whatever information is furnished.

It is believed that this department can be made of great value to the hospital people, and it is sincerely hoped that they will take advantage of the opportunity afforded to settle many vexatious, interesting and important problems.

EDITORIAL COMMENT.

When the women obtain the full right to vote, it may be possible to increase the appropriations for public hospitals out of money saved by a little more conservatism in appropriations for new jobs, monumental public buildings, and by the elimination of plain graft. The women have hearts.

The new Sea View Municipal Hospital of New York seems to be in a bad way. It was planned to cost $2,000,000, and already $3,627,000 has been expended. The Bureau of Municipal Research is asking why. But, like in most municipalities, the people of New York have become accustomed to bad guesses on institution costs.

The splendid new $4,000,000 hospital in Cincinnati seems to be in the hands of the political spoilsmen. The medical profession and the public are in open rebellion. It is a serious thing to prostitute a great public philanthropy in this age, and many an administration that started out as well as Mayor Hunt's has come to grief with less provocation.

In another column there is a story of social service in the hospital. It is a message brought by a soldier from the firing line. The entrenchments of selfishness are in the storming; the citadels of a sordid world are in the smoke of the battle; the little army is bringing succor and good cheer to the helpless, the afflicted, and the sorely pressed. Perhaps all the suffering in the world is merely the acid test of human nature—to bring out the courage, devotion, and unselfishness.

THE MINNEAPOLIS A. M. A. MEETING.

Profitable Session of the Hospital Section of the American Medical Association—Abstracts of Papers.

Some of the best papers that have ever been written on hospital subjects were read before the Hospital Section at the Minneapolis meeting of the American Medical Association, June 17-20. The papers themselves were all full of meat, and the discussions were in every way worthy of them.

The meeting, as a whole, was one of the most successful that the American Medical Association has ever had. There were about 5,000 members of the Association present, and the ladies and other noncombatants brought together at Minneapolis a crowd of about 7,000 people. The weather and the work were hot. Everybody had a good time. The arrangements for the entertainment of the guests were everything that could have been desired. The university folks turned over the university buildings for meeting purposes, and the sections were all housed in them. The conditions were in every way ideal for holding a great meeting. The lecture rooms in the various buildings easily accommodated those present, and there were microscopes, stereopticons, and every other facility to give to the section officers and the readers of papers everything they could want for a first-rate presentation of their work.

The Hospital Section meetings were not very largely attended, and the sessions were of quality rather than quantity. It was the experience of the Hospital Section officers that too many papers are on programs as a rule; for instance, there were forty papers in the Surgical Section, which left no time for discussion, and everything had to be hurried through. For the Hospital Section it was decided to have only about five papers each day, which would take up one-half the morning, leaving 50 percent of the time for discussion. The afternoons of each day were left open to be employed in sight-seeing and whatever recreations the members enjoyed most. A number of those who registered under the Hospital Section visited the principal hospitals of Minneapolis and St. Paul during these afternoons. Dr. Ancker, at the City and County Hospital, St. Paul, has been building a new group of hospital structures, and, as usual, Dr. Ancker installed some exceptionally good machinery and showed his guests some of the new devices of various sorts.

Dr. H. O. Collins, superintendent of the City Hospital, Minneapolis, is also building some new structures, among them a nurses' home, and nurses will be glad to know that Dr. Collins is building a private room for each pupil nurse.

Dr. Baldwin, of the University Hospital, is just catching his breath between some new construction just completed, and some architectural planning for the immediate future.

Dr. Howard, of the Peter Bent Brigham Hospital, chairman of the Hospital Section, presided at all of the meetings, and, although extremely modest in his self-appraisement, made an ideal presiding officer and drew out discussions that a less able presiding officer would not have elicited.

The chairman's address was a masterpiece. The concentrated wisdom of a long and busy career poured like crystal water for half an hour.

In his address the chairman ran over the past of hospital history in this country very briefly, and in five minutes was down to a survey of the present and predictions for the future. There are about twice as many hospitals in this country as there were three years ago, according to the chairman, and it will be a very short time until the public will demand that every community shall have a sufficient number of hospital beds for every sick person in the community. In other words, Dr. Howard thinks that in the very near future every person taken seriously sick will find his best care and best opportunity for recovery in a good hospital. He thinks also that the hospitals are growing better all the time—indeed, was very optimistic on this point—and held out the highly significant fact that philanthropists and people of means are rapidly coming to a state of mind in which they will liberally support every hospital that is doing really good work. He thinks the time has gone by when good hospitals need suffer for want of funds. The chairman urged three things that the hospital of today and tomorrow must stand for in order to succeed: first, the care of patients; second, scientific investigation into the causes and cure of disease; and third, the education of physicians, nurses, and hospital people generally, and through them the public, in the best methods to cure and the best methods to prevent disease. Dr. Howard drew attention to the fact that many hospitals today have scientific laboratories in each of their several departments greater in point of size and cost, and far greater in usefulness, than the whole laboratories of those same institutions ten years ago. He pointed to the great advance in the attitude of trustees and the public in regard to scientific investigation in the hospital, and gave concrete examples of trustees who only a few years ago threatened to resign if certain moneys were not expended "for the care of patients" instead of for scientific inves-

HOWARDISMS.

Pointed Paragraphs in the Chairman's Annual Address.

There are twice as many hospitals as there were three years ago.

The public is going to demand that every community shall have enough hospital beds to care for every sick person.

Three things that our hospitals should stand for: 1, the care of the sick; 2, scientific investigation; 3, the education of physicians, nurses, orderlies, and through these the public at large, concerning the care of the sick and the methods to prevent disease.

Sympathy, Gentleness, and Courtesy are the three graces of the hospital—three ministering angels to the sick.

There is no longer any fear that the public will not support scientific investigation.

Many communities spend all their money in buildings too large for the number of patients they have, and are then left without money to support them.

A hospital without patients cannot educate—it cannot do good.

Spend less money on your buildings and more on your running expenses. When the public is impressed with the good a hospital is doing, the money will come.

Gathering the sick into the hospitals not only places them where they can be better cared for, and given better chances for recovery, but conserves the energy of the physician and multiplies his usefulness.

tigation. These same men today, he said, were more than willing to have their money spent in scientific investigation, knowing that such expenditure was for the highest good of the patient and the public at large. The chairman made a very strong point of the fact that a great many hospital boards are spending too much money on the architecture of their buildings, leaving themselves too little for their administration. He strongly advised the building of plain, simple, but efficient, hospital buildings that would permit of economic administration, and he held out the glowing promise that hospitals directed along these lines would have no difficulty in commanding abundant funds for every legitimate purpose. The giving public is a wise fiscal agent today, he thought, and is quite capable of judging whether an institution's trustees are making the best use of the funds intrusted to them, and,

DR. L. B. BALDWIN.
Newly elected chairman of the Hospital Section.

if so, the public is perfectly willing and even anxious to give all the money that such a board needs.

Dr. Howard thinks that vast changes have taken place recently in another direction, and that is the attitude of the medical profession toward hospital patients. He knew a patient, not so very many years ago, who had tuberculosis and was given a prescription that would have cost two or three dollars to fill, and was told to spend his winters in the south. The fact that the patient was a day laborer, had a large family dependent on him, and not a dollar available for his own care, seemed not to have dawned on the physician. He thinks such an incident as this could not happen today in any well conducted hospital or among physicians of experience.

The speaker's address gave a very concrete running account of what happens today to the patient who applies for admission to a properly conducted institution: "When such a patient applies at our out-patient departments," he said, "a careful physical examination is made and conditions are noted. Then there is an investigation as to his ability to apply the necessary treatment. Someone visits his home to see if it is possible for the patient to sleep out of doors; if it is not, some society finds for him a sleeping porch. If he cannot pay for the medicines that are needed, the society, as a rule, furnishes these medicines free. If he needs a few months in a tuberculosis sanitarium to begin with, this is provided for, and the social worker interests the various charitable organizations to look out for the family during this sojourn. When he has returned to the community, the same careful investigation is followed up. He is gathered into a class of tubercular patients who meet evenings to get their directions and encouragement from the physician in charge, and almost before you know it this family and the neighbors have all of them become educated in what is proper today not only to help a tubercular case to recover, but to prevent others in the neighborhood from contracting the disease." This progress Dr. Howard attributed entirely to the initiative of the general hospital in the community, and he spoke of tuberculosis merely because that seems to be one of the diseases to which more special public attention is devoted just at this time.

Dr. Howard has three graces that are ministering angels to the sick in the wards of every hospital that is entitled to public support and public sympathy. They are Sympathy, Kindness, and Courtesy, and, if Sympathy pervades the atmosphere of the hospital, her handmaidens, Kindness and Courtesy, are ever present.

ABSTRACTS OF PAPERS READ.

The Ward and Operating Units of the General Hospital.

By Edward F. Stevens, A. A. I. A. Hospital Architect, Boston, Mass.

The first session of the Hospital Section was a day of hospital architecture, there being five papers on one or another phase of architecture for the day's work.

Mr. Stevens is an architect, and was one of the foremost architects in the country when some years ago he chose to confine his activities to hospital architecture as a most inviting and attractive field. He had just come from Europe, after a three months' stay, when he prepared his paper, which was liberally illustrated. "The plan of the ward unit," he said, "whether in a 100-bed hospital or a 1,000-bed hospital, has precisely the same problems to solve—namely, the best care of the patient for the least expenditure of energy on the part of the nurse or attendant." He had visited during his sojourn in Europe four hospitals: the Barmbeck-Hamburg at Hamburg, the Rigs at Copenhagen, the Bispeberg at Copenhagen, and the Munich-Schwabing at Munich. In all these institutions he found some new and most desirable features. Many illustrations accompanied his description of these hospitals.

In the Barmbeck City Hospital at Hamburg, he said the architect, Ruppel, had differed somewhat from his usual planning, and had placed the medical unit center, or bath house, on the axis of the plan, while with the St. Georg, the Eppendorf, and the Virchow the bath house is placed on the medical side, balancing the operating building on the surgical. Grouped with this medical center he found an entertainment hall for patients, which was used as a church on occasion. On the surgical side there were three pavilions connected by corridors with a fourth pavilion isolated somewhat. Sixteen beds made up the larg-

est ward in this hospital, and off of each ward was a "liegehalle," or air balcony, and off of each ward a "tageraum," or day room. The service rooms, including the laboratory and the surgical dressing rooms, were all grouped together at some distance from the patients. Each pavilion of this hospital was two stories, and there were a few rooms over the second story for nurses to rest in and who could be called quickly for emergency service.

The operating room in this hospital Mr. Stevens found rather peculiarly arranged from the American viewpoint, but this was partly explained by the fact that the hospital was situated several miles out in the country and had little or no emergency work to do. There were two surgical operating rooms in a suite, one for clean and the other for septic cases, and in these only major surgery was done. Minor operations and all surgical dressings were performed in the dressing wards of the surgical units.

The new Rigs Hospital, at Copenhagen, which has been occupied only for a short time, is, like all European hospitals, of the pavilion type, with corridors connecting the main groups of buildings, and with the surgical and medical units opposite each other at the extremes of the central corridor. In this hospital the bath house again is its chief feature on the medical side. (We all know that in Europe hydrotherapy has a very much larger place than in this country.) In this hospital another feature common to nearly every other European hospital exists—namely, a conveniently situated and elaborately equipped autopsy room. Mr. Stevens' guide, in an aside to him, remarked that for the patients' sake she could have wished for a little less attention to the autopsy room and a little more attention somewhere else. This side remark of Mr. Stevens' guide is, to the mind of the present writer, a touch on the quick of the chief difference between the hospitals of Europe and those of this country.

The maternity, Mr. Stevens found, was one of the largest departments of this hospital, and was provided for the care of the vast army of unfortunate women who are found everywhere in Europe.

The ward unit of this hospital, Mr. Stevens found, was a most interesting study as to its arrangement. He thought it had much to commend it. The staircase, elevator, and noisy parts generally were at the extreme ends of the unit, as far removed from patients as possible, while the serving kitchen, bath and sink rooms, the surgical dressing room, and the toilets were at the opposite end of the building, also as far away from patients as was necessary to preserve quiet in their surroundings. The ward itself, which contained twenty-six beds, was divided into eight sections, each containing three or four beds, and the sections being divided by a screen high enough to afford privacy to all the patients and so arranged as to allow of easy access on the part of the nurses. These screens were six feet high and the bottoms were a foot from the floor, and did not interfere in any way with the ventilation of the whole ward. An isolation ward and a nurses' room were placed in the center of the ward. Surgeons' basins and medicine closets were in each ward. Mr. Stevens thought this was the best ward unit he saw abroad.

The next hospital Mr. Stevens visited was the Bispeberg, at Copenhagen, which is composed of forty-six buildings, each two or three stories high, located on a plot of ground of fifty-one acres. All the buildings were connected by underground corridors, and only the six surgical units were connected by above-ground corridors. The bath house was an independent building, too far removed, he thought, from the medical units. The division in the ward units was as follows: two sixteen-bed wards and two six- and two three-bed wards, with all the service rooms in the center and with a single large day room on the axis. Each building in this group had its air balconies, and the grounds were laid out with arbors, benches, and fountains.

One of the most complete new hospitals in Europe, Mr. Stevens thought, is the Munich-Schwabing. The architect, Schachner, had not only embodied the best of German planning, but had coupled with it the best that we have in this country. The different services were in different buildings. The hospital is of the pavilion order, but all the buildings were connected by above-ground corridors, except the contagious department, and the connections with this were by an underground corridor. The administration building in this group was in the center, with a chapel and nurses' residence, the hospital offices, and the home for interns. Radiating from this central administration group were the various services. The most interesting of these service groups was that for surgery, the patients' units of which were grouped around an operating building entirely separate from the patients' quarters, excepting by corridor; the medical units had for a center the bath house. Mr. Stevens liked the ward unit arrangement of this hospital. There were no large wards, the largest being twelve beds, all of them facing toward the south, with arrangements for wheeling patients to the galleries and to the gardens. The service rooms of these units were all to the north, and the day room was on the south side of the patients' quarters. In this hospital the patients, after admission, were distributed to their several locations and were sent there in their street clothes. The patient's clothing is removed, put into a container made of linen and hung on a truck, made for the purpose, with a lot of hooks. In an adjoining room he is given a bath and hospital clothing. He then passes through to another room, where the physical examination by the intern is made and the history taken. He then goes to his bed in the ward. Much might be said by the American hospital administrator as to the time necessary to be taken for all of this detail before the patient finally gets to bed, and this technic shows again, it seems to the writer, a difference between the treatment of patients in this country and in Europe. Over here we take it for granted that a patient is sick when he comes to a hospital, and that the first thing to do for him is to get him to bed.

In the subsequent numbers of his paper, Mr. Stevens took up in detail the difference in the architecture of European and American hospitals, contrasting those he had just described with such new American institutions as the Peter Bent Brigham Hospital, of Boston, the new Cincinnati General Hospital, the new Detroit General Hospital, and others. He thought the conditions surrounding the construction and operation of American hospitals accounted for the difference in architecture as compared with European institutions, and thought the outside causes had very much to do with this difference; as, for instance, most of the European institutions are built and conducted by the state, whereas in this country private philanthropy builds and supports the hospitals as a rule, which must give rise to a large difference of opinion as to the accommodations for patients and the arrangements for scientific study. Mr. Stevens commented at some length on the diversity of arrangement in this country and Europe, especially in regard to the surgical unit; as, for instance, in the Virchow Hospital, at Berlin, with its 3,000 patients, a large percentage of which are surgical, there were only

four operating rooms all told, one of them for septic cases. In the Munich-Schwabing Hospital there was only one clean operating room, while in the Massachusetts General Hospital, with only 250 patients, there are five clean operating rooms, besides other surgical dressing and numerous surgical out-patient clinic rooms, and a separate operating room for the orthopedic department.

Architecture of the Great Charity Hospital.

By Richard E. Schmidt, Chicago, Fellow American Institute of Architects.

Mr. Schmidt's idea of the great charity hospital is an institution which must handle the greatest possible number of patients at the least possible ocst, and give them the greatest amount of intelligent care; and it should be arranged architecturally so that the physician, nurse, and the common employee can do the greatest amount of work with the least expenditure of time and energy. He thought very much could be done in this respect by proper grouping of the buildings and a proper arrangement of the unit. His picture of such an institution was a group in which the administrative and service buildings of all sorts should form the center, and ranged about them should be the patients' quarters of every description. The central unit would include the administration building, as the gateway of the institution, the business offices, and the information bureau. This group should also include the admission department, with all of its auxiliaries, examination rooms, dispensary, the out-patient service, baths for the admission of patients, clothes lockers, and the clothes sterilizer. The necessity for this sterilizer brought up the further proposition that, since sterilized material is necessary in all parts of the institution, medical and surgical, children and maternity, and since this administration group is at a point nearest to each one of the patients' units, the whole sterilizing plant of the institution should be there also, and should have the immediate and exclusive care of an expert in sterilization.

The stores of the hospital should also be a part of this central group, because stores of one sort or another are needed at every point of the institution, and this point is the nearest to all other points. The kitchens and diet rooms should also be of this center group—first, because they can be close by the stores, and, second, and certainly the most important point of all, so that the food can be quickly transported to patients for service to them in an appetizing and palatable condition.

The pathological department is another bureau that should be a part of this central group, including the morgue, the autopsy room, the chapel, rooms for coroner's inquests and for witnesses. Included also in this laboratory suite must be the bacteriological department, with its serums and vaccines, with its incubators and refrigerators for the preparation, keeping, and care of the various serums and vaccines and autovaccines. In such an institution there would be auxiliary laboratories in all of the various services of the institution and the central laboratory should be convenient to all those, and hence a part of the central group. If there be a school or lecture rooms for large bodies of students, these should also be centrally located, because patients will naturally be brought to them from every section of the institution, and patients should be made to travel as short distances as possible.

Mr. Schmidt raised the question whether the operating department should be centrally located and all at one place, or whether there should be a number of surgical operating rooms, each one located convenient to a certain class of patients—that is, an operating room in the children's department, one for the gynecological service, and so on. He drew attention to the fact that the medical profession would not agree on the point as to whether the surgical rooms should all be together or whether they should be separated to cover the various services. There was no question in his mind that the cost of administration would be much higher in the event that the operating rooms were divided. There would be a great expense in energy of the nurses, who in a great number of surgical units, in which only a comparatively small amount of operating was to be done, would have to be on duty all the time, and each one of these units would have to be kept surgically clean; and in the case of several of these suites there would be more surface to keep clean and more items in the way of surgical material. He did not think that the surgeons would make very much of the point of transportation, because they seemed to feel that it did not make much difference whether a patient went fifty feet or three hundred following the operation, but he thought that many of them would insist on a greater amount of segregation of various classes of cases; as, for instance, he doubted whether the general surgeon whose work was mostly aseptic and done under aseptic conditions would agree to the operating work from the genito-urinary section. The whole subject of the location of the surgical operating rooms, Mr. Schmidt thought, would have to be put up to the medical staff of the hospital after both sides of the question had been given them for settlement.

The power plant and laundry, Mr. Schmidt thought, need not be located in this central group, because the drop in efficiency of hot and cold water, steam and electricity, is a negligible quantity over such short distances as are contemplated in this grouping.

He thought there should be one large underground corridor, say 16 feet wide and 7 feet high. A partition would be built separating this corridor into two sections, one 7 feet wide and the other 8 feet wide, leaving a foot for the thickness of the separating wall. In the narrower section would be carried all the pipes for the service of all the buildings, and in the wider section would be the passenger and freight service of every sort. He thought all the buildings connected with this great corridor should be supplied with elevators of the automatic type, and showed that, while for installation such elevators cost little more than man-operated apparatus, their administration would be very low, because they would do away with the wages of operators. He insisted that present-day automatic elevators are sufficiently "fool-proof" to justify their installation and use with a feeling of entire safety.

In regard to the laundry, Mr. Schmidt thought that it made very little difference whether soiled and clean laundry goods were transported one hundred or six hundred feet.

As a part of his paper, Mr. Schmidt showed a number of lantern slides, giving the architectural grouping of several European hospitals, merely to show the conception of European architects of the arrangement of the hospital buildings.

Architecture of the Modern Hospital.

By L. A. Lamoreaux, of Minneapolis.

The next paper was by Mr. L. A. Lamoreaux, architect, of Minneapolis, on the subject of "Architecture of the Modern Hospital for Contagious Diseases." The central thought around Mr. Lamoreaux's paper was one in advo-

cacy of the many-story or block type of hospital against the pavilion type. He thought the administration units could be on the lower floors, including the nurses' homes and dwelling places for employees when it became necessary to house all these people, and that the upper stories could be used for patients, where the air and sunshine were freer and more plentiful, and where the noise and dirt of the city or neighborhood would not reach them. If Mr. Lamoreaux were given the task of building a general hospital and contagious department in one inclosure, he would consider it ideal to put it all in a block type building—say, a hospital to care for 2,000 patients. He would place the patients all in the upper stories and the administration and the help below. He would have everything under the one roof, excepting the contagious hospital, power plant, kitchen, and laundry, which would be in another building. He would take one-half the block for the hospital proper. On the other half of the block he would put the contagious hospital, and between the two he would put the power plant, kitchen, and laundry. If he were going to build this building in Minneapolis, he would build it just as office buildings are built today—probably of concrete. At first he would build the necessary number of stories—say, as high as seven—for immediate use, and he would build the side walls and supports so that they would hold seven or eight stories more. Instead of traveling through corridors to get from one service unit to another, he would go up and down in the elevators, and he would be able to travel in fifteen to thirty seconds from one service unit to another, whereas by means of corridors it would take that many minutes. Mr. Lamoreaux thought it would be ridiculous to spend as much as $2,000 or $2,500 per bed for a hospital building. He thought that less than half of this would be extravagance. He told of conditions in Minneapolis, where the city owned two-fifths of a block, on which they are now starting a building to take care of a thousand patients, and also a nurses' home.

The new isolation hospital which the city intends to build, and of which Mr. Lamoreaux is the architect, is to be T-shaped, he said, with dimensions on the ground of about 120 by 100 feet. In one section of the "T" were the nurses' rooms, some rooms for the help, and two elevators. Each elevator has separate terminals, and the class of patients that may ride on one elevator need not come in contact with the other in any way—indeed, one of the elevators need not come in contact with the contagious part of the hospital at all. The other section cross of the "T" is divided into private rooms on the several floors, and observation rooms. In the observation part of the building the doors are what is known as "Dutch" doors—that is, they are built in two segments, an upper and a lower, so that, for instance, the lower segment can be kept closed and prevent sick children from circulating through the building and yet leave plenty of fresh air moving about everywhere. The partitions are of glass, especially on the corridors, so that nurses walking along can see what is going on in the rooms. In the main section of the "T" are the wards. In no ward are there more than eight patients.

Mr. Lamoreaux told of a recent visit he made to some eastern hospitals, and he had found in New York as many as fifty-one patients in a ward and there were deplorable conditions. He found two patients occupying one bed, one at the head and one at the foot.

Nearly all partitions in Mr. Lamoreaux's new hospital are of glass. All the utility rooms are concentrated as much as possible in the center of the "T" or at the junction of the vertical section with the cross. The clean-up rooms are there among others, where the nurses can pass into a room in which are the lavatories, and they must pass first into the clean room and from there into the open-air corridor. The doors are so arranged that they cannot be opened from the outside; for example, a person enters the soiled room and the door cannot be opened to let him pass back into the ward. He has to go through the whole process and out the other way. Another central feature of Mr. Lamoreaux's architectural scheme is the clean-up department for patients as they go out. This constitutes a bath room and a clean room, where the patient takes his clothes and goes from there onto one of the elevators.

There are to be no dumb waiters in Mr. Lamoreaux's hospital, the intention being to use regular elevators to convey food and material as well as passengers. There are to be arrangements for sterilizing all dishes and kitchen utensils as they pass out of the infected quarters and before going to the kitchen. This is built on the plan of the mattress disinfector, the dishes going in one end infected and coming out the other end clean. This disinfector occupies a position between two rooms, the soiled end in one room and the clean end outside the infected quarters. In Mr. Lamoreaux's hospital are also to be installed the new style ward incinerators, one for each ward, and through the several stories they are placed one above another, with exit for gases through one flue.

On this plot of ground and in this way Mr. Lamoreaux proposes to build eight stories, designed to accommodate three hundred patients and designed also to add five stories more when needed. A new feature of this institution is that many of the rooms are fitted with live steam exits, so that live steam can be turned into the rooms for disinfecting purposes. It is intended to allow visiting freely in this institution, but all visitors and patients will be separated by a glass partition, so that a mother can visit her child without coming in contact with it, and hence without danger of infection. All infected clothing in this building is to be sent to the laundry through a chute open at top and bottom, the whole chute being outside the building. The bottom of the chute will enter directly on one part of the laundry, and the clothing will be sterilized when it arrives at this room before being sent on to the laundry proper.

Equipment of a Small Hospital—Making Over a Dwelling House.

By John Allan Hornsby, M. D., Chicago.

Dr. Hornsby wrote his paper for the benefit of the very large number of medical men who, he says, are finding themselves unable to do good work in the mediocre hospitals of their communities and who are looking about for some means by which they can help themselves and protect their patients. Dr. Hornsby showed lantern slides of a number of small dwelling houses on the edges of small cities and towns that had been run down by the ingress of business activity, and that had consequently been abandoned by their occupants. By a few strokes of the pen in the lantern slides, Dr. Hornsby showed the transformation of these dwelling houses into very acceptable small private hospitals, in which good work might be done. He gave the costs of these alterations, which were insignificant in amounts. The reader of the paper also equipped one of these small institutions complete, beginning with the sterilizers, which he said were the only absolutely necessary items of equipment other than those of an ordinary dwelling house, and, including the furnishings, sur-

gical and medical appliances, linens and cottons, kitchen and dining room, and the housekeeper's paraphernalia, Dr. Hornsby gave $1,000 as practically the whole cost of transforming and furnishing one of these dwelling houses of sufficient size to accommodate ten or fifteen patients.

Possibilities in the Routine Practice of a Small Hospital.

By Herbert C. Cole, M. D., Bogalusa, La.

The next paper read was on the program for the second day's session, but Dr. Cole wished to use lantern slides, which were available at the first session and would not be thereafter. Dr. Cole is chief surgeon for the Great Southern Lumber Company, which owns and operates the largest saw mill in the world at Bogalusa, Washington Parish, La., about a hundred miles north of New Orleans and close to the Mississippi line. The town of Bogalusa is located on a hill in the midst of hundreds of thousands of acres of swamp. The lumber mill works 10,000 people, about half of them negroes, and all these employees with their families make up the town of Bogalusa. Dr. Cole went into detail as to how, in the midst of these surroundings, he had built a hospital for $40,000 that could accommodate sixty or seventy-five patients. The building he showed on the screen was U-shaped, the connecting part being the administration building, and one of the horns was for the occupancy of white patients and the other for negroes. A second story over the administration building was a home for the nurses and the superintendent of the hospital. In a number of lantern slides Dr. Cole showed how in an isolated place good surgery could be done and how patients could be nursed in an up-to-date, scientific manner. In his operating room, shown on the screen, there was every aid to aseptic surgery—sterilizers, various solutions, sterile water, etc.—and he showed the "scrub-up" methods, which are those practiced in the large metropolitan hospitals. Dr. Cole described his pathology, which included bacteriology, serum therapy, and vaccine therapy, and even an occasional administration of autogenous vaccines prepared in his own incubators, in his own laboratories, by his own assistants. He told what he was doing about the diagnosis and care of a number of the tropical diseases, including hookworm and pellagra.

Incidentally, Dr. Cole gave a very interesting account of what he conceived to be the duty of a great corporation, such as the one he represented, in the care of its employees. The company polices the town, attends to all its sanitation and hygiene, furnishes water and light to all its inhabitants, takes care of the men and their families during illness, and directs their lives in preventive medicine. The married men, he said, paid 90 cents a month out of their wages for this service, and the single men 65 cents, and the total aggregated enough money to run the hospital and pay the chief surgeon and four assistants, who formed practically the whole medical profession of the community.

The Selection of Hospital Employees Under Civil Service Rules.

By Leonhard Felix Fuld, M. D., New York.

The second day's session began with the reading of a paper written by Leonhard Felix Fuld, examiner for the New York Civil Service Commission, on the subject of "The Selection of Hospital Employees Under Civil Service Rules."

Dr. Fuld believed, according to his paper, that the best class of employees were to be had by civil service examination, which included physicians, trained nurses, supervising nurses, trained laboratory assistants, clerks, stenographers, and the like. The noncompetitive class, he thought, were made up of employees who are paid such small salaries that the institutions are unable to obtain people of sufficient capacity to pass any sort of examination; such help, for instance, as orderlies, domestics, and other minor employees. He thought that the incumbents of these noncompetitive places, however, should be identified clearly as to their past, and that each one's personal history should be thoroughly worked up before he or she was put to work. Dr. Fuld had a third class of institution employees which he called the "labor" class, which he again divided into a subclass of laborers and a subclass of mechanics. This laboring class should be compelled to pass a physical examination, he thought, as to their capacity to do the work intended to be done, and a personal history examination. In the subclass of mechanics, he thought, their wages would make it possible to examine them as to their qualifications to perform the duties for which they were being employed. Pupil nurses Dr. Fuld left out of consideration, because their qualifications and eligibility were taken care of by their superiors in the training school just as pupils were accepted or rejected in any other school. Dr. Fuld doubted very much whether the small salaries paid by hospitals were in reality a saving, because he thought better salaries would obtain the service of so much better people, so that a much smaller number could do the same amount of work. He spoke of the bonus system of reward as an inducement to permanency of service, and which he thought would immeasurably tend to "render less frequent the lapses from a proper mode of life, now so frequently attendant upon pay day in public hospitals." He also urgently advised the employment of men who had served in the United States Army Hospital Corps. He thought their training as orderlies gave them not only considerable skill, but also a discipline in obedience of orders that civilians rarely obtained.

Municipal Hospitals and Their Relation to the Community.

By Rupert Norton, M. D., Assistant Superintendent Johns Hopkins Hospital, Baltimore.

Dr. Norton was not present to spare anybody's feelings, and he began his paper as follows: "Speaking broadly, it may be said, without fear of contradiction, that the municipal hospitals of this country are a disgrace from almost every point of view, and do not in any respect serve the purpose they should. The exceptions can be counted without difficulty on one's fingers. One of the best is the Boston City Hospital, and the worst, considering the city where it is situated, is the Cook County Hospital of Chicago." After taking to task, in a similar vein, most of the municipal hospitals in this country, Dr. Norton paid his respects to the hospitals of Europe, especially to those in Germany, which he considered the best in the world, and named in particular the municipal hospitals of Berlin, Hamburg, Cologne, and Düsseldorf. One of the reasons, Dr. Norton thought, why the German municipal hospitals were better than those in this country was that the governments over there felt that better work could be obtained, and a more highly scientific care of patients, where the hospitals were directly connected with medical schools. In Germany, he said, the hospitals were showplaces also, like the schools and theaters, and strangers were taken to see them, whereas in this country the attention of visitors was attracted away from these institutions. One of the reasons, Dr. Norton thought, why our municipal hospitals were so inferior was because of our national characteristic indifference to human life. We

were too busy to think about protective devices and preventive methods. He also thought that another very pronounced reason why we were deficient in our municipal hospitals was because we hired political architects to build them, men who were oftentimes absolutely incompetent and who were too busy with their political machinations to take time to inform themselves. A refreshing exception to this rule, Dr. Norton thought, was the case of Cincinnati, where Dr. Christian R. Holmes had given an immense amount of time and had devoted himself to working out and perfecting plans for the new Cincinnati City Hospital. Political spoils was another reason, and political conditions generally, why our municipal hospitals are such failures—the magic "pull" which brought into the hospitals as employees old political henchmen of those in authority.

Dr. Norton did not drop his subject at the stage of fault-finding, but really suggested a remedy, the keynote of which was that "communities are awakening to their physical needs and learning that they need not be the playthings for groups of dishonest politicians." The reader thought that with education of the public the hospitals could be made to grow better, but they would have to be taken out of politics and placed on a basis of efficiency, many signs of which Dr. Norton thought he could see in various parts of the country. Then he spoke of many directions for improved conditions, with which all of us have been more or less familiar. He thought the municipal hospital was fast becoming very much more important in the community than merely a place in which to take care of the sick. He said from it should emanate the community's ideals as to prevention of disease, and, therefore, the methods practiced in municipal hospitals should be of the very latest and most approved kind. He stated the employees ought to be better trained people than they are usually in our municipal hospitals, and superintendents of these hospitals should be selected with more care, although it was rather a matter of personal equation whether a man or a woman, or whether a professional man or a layman, should be placed at the head of the municipal hospital, although he thought that, with some rare exceptions, the best person for the superintendency of such a hospital was a medical man who had been trained in business methods.

One of the vital points touched in Dr. Norton's paper was that of the duty of boards of directors. He said these boards ought to direct things only in an advisory way, and that the superintendent, if he was the proper man, should be left to run the hospital without interference. He should be held to a strict accountability for all his acts, and the conduct of his office should be constantly viseed by their boards and their committees. The superintendent should have absolute authority in the selection of all his assistants, including the superintendent of nurses, matron, engineer, and heads of other departments.

Hospital and Asylum Workshops—Some Possibilities of Handicapped Labor.

By Herbert J. Hall, M. D., Marblehead, Mass.

The text of Dr. Hall's paper was that "nearly every person in this world can add to the sum of world wealth by his own labor; those who have lost limbs, those who have just recovered from illnesses that make new occupations necessary for the future, the mentally deficient—all these can be taught by intelligent and trained direction to make the most of their handicapped possibilities." Dr. Hall's paper was devoted to a description of his work in the institution at Marblehead, Mass., where special attention had been paid to persons suffering from nervous breakdowns and illnesses of that order, in consequence of which they were compelled to occupy their hands and to do new kinds of labor to make a living. Craft work only was employed, including hand weaving, metal working, wood carving, leather working, pottery, basket weaving, and cement working. Experience had demanded that all these be dropped as unprofitable, excepting pottery, hand weaving, and cement working. These had been made to pay their way, and last year, Dr. Hall said, five people working in the pottery made and sold $6,000 worth of pottery goods. One of these five people was a woman, had been a surgical case, and had profound neurasthenia of long duration.

Dr. Hall gave some other examples where handicapped labor had been made to produce profitably, notably, he said, that last summer a small group of male patients at the state colony in Gardner, Mass., under Dr. LaMoure, produced $40,000 worth of supplies from the hospital farm, which return would not have materialized without the use of handicapped labor. He gave every assurance that the men who worked on that farm were not overworked, and that they were physically and mentally better for their experience. Another example was on the Pacific coast, where Dr. Philip King Brown has within the past two years established a pottery, where a group of convalescent tubercular girls are paying their expenses, a dollar a day, while under treatment.

The Psychopathic Hospital Idea.

By E. E. Southard, M. D., of Boston.

The next paper read was on the subject of "The Psychopathic Hospital Idea." The paper was prepared and read by E. E. Southard, M. D., director of the Boston State Psychopathic Hospital. In his introduction Dr. Southard made the prediction that the psychopathic hospital and the ideal for which it stands is in its very infancy. In this regard he quoted Pliny Earle's utterance of 1867, "Carbon agglomerated is charcoal; carbon crystallized is diamond. What charcoal is to the diamond such, I believe, is the psychopathic hospital of the present compared with the psychopathic hospital of the future."

The speaker made a plea that the superintendents of hospitals either give their insane patients proper accommodations as dictated by modern psychopathic ideals, or spend their time and energy helping to create psychopathic institutions in which such people can be properly and scientifically cared for. He thinks there is no justification for the use of drugs or mechanical restraint to control irresponsible and disturbed patients. He finds the remedy under five heads: common sense, hydrotherapy, specialized attendance, proper isolation, and more common sense. A good deal of the paper was devoted to the care of alcoholic, especially delirium tremens, patients. He questions whether the time is not coming when acute alcoholism must be cared for in specially devised institutions, and the speaker quoted figures to show that in the institution of which he is the director thirty delirium tremens cases did far better than the records for any general hospital could possibly show. He thinks, however, that a good many so-called delirium tremens patients are not delirium tremens at all; in fact, fifty-four out of eighty-four cases brought to his institution were wrongly diagnosed. He thought the most formidable and perhaps the most important work under the order of psychopathic hospitals is sociological in character and involves an outpatient service. The speaker classified syphilis as perhaps occupying approximately one-third of the attention of the

psychopathic hospital, but spoke hopefully of the future in regard to that particular disease with a suggestion that the problem concerning it is transmedical in character and will require great cooperation of social workers and economists. Dr. Southard spoke of the problems of delirium tremens, of syphilis, and of social service in connection with the psychopathic hospital, not because they include all that was to be done in such an institution, but because those particular problems were of more vital interest to the Hospital Section of the American Medical Association, referring those who cared for the scientific or medical side of the problems to the special works on those subjects.

Factors Influencing Hospital Costs.

By Thomas Howell, M. D., New York.

Dr. Thomas Howell, superintendent of the New York Hospital, read a paper on "Factors Influencing Hospital Costs." In his paper Dr. Howell drew most thoughtful attention to some items that go to make up the cost of hospital administration, and enumerated some of the things that determine the difference in cost between various institutions of the country. He thought there was justification for a higher cost in city hospitals than in rural institutions because of the complexities of city life and the added cost of nearly everything. The location of the institution he considered a factor—its convenience to markets and its situation as to cleanliness; it would be harder to keep clean an institution in a factory settlement or manufacturing district, and would, therefore, take more employees to keep it clean. The amount of scientific work done had a good deal to do with the total cost. A medical school connection brought up the cost because the demands for a higher order of service would bring corresponding high costs for that service—the character of such service as food, attendance, nursing. In the $3.00-a-day hospital these things are better attended to than in the public hospital that costs a dollar per day. Hospitals in the south, the writer held, other things being equal, should have lower costs than those located in the north, because food and labor are cheaper and the expenditure for coal will be very small. He gave the example, in this connection, of the Winnipeg General Hospital, where the fuel cost foots up 28 cents per day per patient, while in the 1,000-bed Charity Hospital of New Orleans the fuel cost is less than 3 cents per day. Dr. Howell said he knew of hospitals with 250 beds whose pay rolls were from $3,500 to $4,000 a month, and of other institutions with the same bed capacity whose pay rolls were as high as $10,000 and $12,000 per month. In the one case the salary account per patient was about 50 cents and in the other about $1.20 per day. The reason why municipal hospitals had lower per capita costs than other institutions, Dr. Howell thought, were, first, these institutions employed a great deal of convalescent patient labor, which private hospitals did not; and, second, that certain city officials—such as bookkeepers, paymasters, purchasing agents, and the like—do a considerable part of the work of the institution, which in private institutions must be paid out of hospital funds. Dr. Howell thinks that in this country we have settled down to something like a standardization of administration, and he is tempted to conclude when he sees the report of the hospital whose per capita cost is high that that institution is giving better service to its patients and a more scientific service than the one whose cost is low.

One of the significant statements in Dr. Howell's paper concerned the purchase of supplies. He thought that, while large institutions are likely to buy in larger quantities and to obtain somewhat better prices, it is far more difficult for them to enforce economy and prevent waste. In the small institutions the superintendent is able to personally supervise the purchase and use of supplies and to enforce frugality. In the large institutions the responsibility for waste and lavish expenditure is divided in a sense, whereas in the small institution the superintendent must stand personally responsible to a greater extent, and will be more able to give personal attention to matters of such detail as purchase and use of daily supplies.

Finally Dr. Howell thought there could be no great leveling process in the standardization of hospital costs for the same reason that there could be no comparison of costs in two watch factories—the one making $1 watches and the other $50 watches.

Efficiency in Nursing.

By Gilman Thompson, M. D.

The third and last day's session of the Hospital Section was devoted to a symposium on nursing. Dr. Gilman Thompson's paper on "Efficiency in Nursing" introduced the subject. Dr. Thompson's paper was a study concerning the loss of time and energy in traversing unnecessary distances. He discussed appliances to promote the patient's comfort in bed and to relieve the nurse of unnecessary labor in lifting patients. He attacked what he called a lack of cooperation on the part of training school authorities in these matters of time-saving and energy-saving, and especially in matters concerning the comfort of patients.

Dr. Thompson, in preparation for this paper, had some nurses wear pedometers in several hospitals. He found one day that a nurse walked seven and one-half miles, and the average was about five and one-half miles. This in addition to all the stooping and lifting the nurse had to do, besides the carrying of heavy weights and performing the light bedside services and the necessary services in utility and serving rooms. He found in one hospital that the ward was so long that the farthest bed was 120 feet from the ward kitchen, and that it was the custom to carry trays individually to and from each bed three times a day. He footed up the unnecessary foot service of the nurse, which amounted to about two miles a day in this particular ward, and the food trays and their contents were weighed and found to weigh about fifteen pounds. The nurse, he concluded, had to haul a considerable weight two miles. When he suggested, in this particular instance, that wheel trucks be used, which would carry all the trays at one time, he was met with the objection that the food would reach the patients cold. Finally he took a common wheel stretcher for an experiment, placed eight trays upon it and compared the time of delivery in this wise against the carrying of individual trays. The time required to serve eight patients was two minutes with a truck and ten minutes without. The difference in distance traveled was 74 feet as compared with 240 feet, all of which he thought disposed of the question of cold food and the other alleged inconveniences.

Dr. Thompson took up the question of bed screens and their hauling to and fro. He found that each screen weighed thirty-one pounds and that it took three screens to surround a bed, so that in order to permit a patient to use a bed-pan the nurse had to carry ninety-three pounds to and from his bed and then, of course, carry the bed-pan to and fro, walking a distance of 480 feet in all. He thought leaving the screen at one end of the room

would avoid a great deal of this unnecessary work. He compared the average hospital ward in New York City with the dormitories of the municipal lodging houses, which contain a bed, a small table, and a more or less uncomfortable chair for each person. There are no articles in the ward for the comfort of the patients, no cranes by which a stiff-jointed or fat patient could lift himself up, and, if there were any in the hospital at all, they were always on the surgical side or somewhere else. The objection to articles of comfort and convenience was that they detracted from the symmetry of the ward. There were no large-size beds in this ward for unusually fat patients, although he found in one case a patient who was twenty-eight inches across the hips and who lay on a thirty-two-inch bed. When a wide bed was finally rushed from a department store, it was so low that the nurse could not take care of the patient without back-breaking exercise. He told of a patient who weighed three hundred pounds and who had nephritis, incontinence, bed sores and high blood pressure. There were absolutely no conveniences to take care of her or to turn her in bed for the necessities of nursing. Dr. Thompson thought that the training schools were very much more given to teaching bacteriology, urinalysis, voice culture, and the functions of the ductless glands than they were to teaching the gentle art of making the patient comfortable in bed.

He said the physicians were oftentimes responsible for a lot of carelessness on the part of nurses, because they demanded too many things of the nurse that were unnecessary—as, for instance, they wanted temperatures, pulse, and respiration every three hours when in fact only a few patients needed anything of the sort. In this way the nurses were required to do things which they knew to be unnecessary, and in consequence of which shirked, and thus the physician helped to build up a regime of inattention, carelessness, and indifference. Rotations in service of physicians, he thought, were many times responsible for poor efficiency. One doctor who happened to be serving three months, and who demanded a certain line of conduct on the part of the nurses and certain sorts of care for his patients, would eventually leave, and the next physician would want something entirely different. He claimed that a cure for this, in a large measure, would be due to charging physicians with responsibility for the conduct of their wards and giving them continuous service. Dr. Thompson tried to obtain facts concerning the health of young women pupils in some of the training schools, which he found extremely difficult, but he did finally get some figures, which showed that in a training school of 119 pupils there was only one and one-half days of illness per nurse for an entire year, which he said would compare favorably with any young woman's seminary or school that he knew of. In conclusion, Dr. Thompson stated that if the nursing system of today was being overweighted with theory and pedagogy, which he thought unquestionably was true, physicians have no one to blame but themselves through their lack of cooperation and the increasing tendency on their part to permit training schools to be managed by outside influences, by uninformed persons, and to permit them to manipulate their own curriculum and arrogate to themselves responsibilities which are primarily the function of the doctor.

The Trained Nurse of the Future.

By Richard Olding Beard, M. D.

If Dr. Thompson's paper was a criticism of nursing methods, that by Dr. Richard Olding Beard, of the University of Minnesota, on "The Trained Nurse of the Future" was even a severer criticism, but Dr. Beard took the opposite tack. The theme of his paper rested on the proposition that nurses must be of a higher order of women to start with, educationally and intellectually, and that the small hospitals which did not have complete nursing services should not be permitted to train nurses at all, but they should be compelled to employ graduate trained nurses to nurse patients in their hospitals, and, if they were unable financially to do this, the hospitals which could not conform to that idea should be closed and their work turned over to institutions that could live up to these ideals. Dr. Beard thought that the training schools up to the present time did not represent any system of well-thought-out line of endeavor, but that, like Topsy, "they just growed." He thought the time had come, however, when some sort of system must be settled upon, and there was more danger of getting a system that was too low in its standard than of getting it too high.

The field of the trained nurse, Dr. Beard thought, had not been nearly defined, and her activities were broadening every day. She is employed not only to take care of the sick in the hospital and in the home, but she occupies a permanent place in the office of the physician and aids him materially in his professional work, including the performance of his private laboratory work. Trained nurses are in the public schools, looking after the health of the children, and here they are assistants to the medical officers also, and from the school they reach into the homes of the children, becoming the sanitary advisers of their parents, and are thus indefinitely engaged in bringing the principles of preventive medicine within the reach of the people. Trained nurses are being employed as resident supervisors in women's departments of universities and state colleges and in private schools. They are employed almost exclusively as the relief agents in the social service bureaus of the country in the garb of visiting nurses. These trained nurses, too, he thought, were becoming the most effective agents in the constructive work of the great philanthropic enterprises concerned in the problems of child welfare and infant mortality and mental hygiene. They are employed in the army and navy hospitals and in the fields of the foreign missions. They are finding a place in the great department stores of the country, and there the work they do speaks for better conditions among the employees, better sanitation, and better hygiene.

Dr. Beard said that the development of the trained nurse was shown at four points of social movement: first, in the demand for legislation, creating state boards of examiners to regulate the practice of nursing; second, the tendency to create definite standards of education of nurses; third, the development in certain large centers of a movement toward university training for nurses; and fourth, a disposition on the part of the public, as well as the nursing profession, to measure up the fitness of hospitals as places in which to train nurses.

Dr. Beard spoke from the standpoint of a university man, as a part of a magnificently endowed institution, and he had very little patience with the small hospitals; in fact, he was quite sure that many of the present educational misfortunes in nurse training, of which so much is being heralded about the country, would be cured when "the smaller private or special hospital with less than an average daily complement of thirty patients, not beds, should be debarred by law from the maintenance of training schools," for which their service he considered inadequate. He thought training schools ought to be standards, and should be confined to general hospitals of standard capacity and equipment.

Obligations of Hospitals and the Public to Training Schools for Nurses.

By Joseph B. Howland, M. D., of Boston.

The last paper of the session, and of the year, was read by Dr. Joseph B. Howland, of Boston, on the subject of "Obligations of Hospitals and the Public to Training Schools for Nurses." Dr. Howland, in his paper, began with some interesting side-lights on the history of nursing in this country. The first training school in America, he said, was established in 1872 at the New England Hospital for Women and Children. Today there were approximately 1,100 training schools. In that first training school there were twelve lectures given to the class—some by the visiting staff, and a small amount of instruction by the interns in taking and recording temperatures, pulse, and respiration. The rest of the nurse's education was acquired at the bedside in the ward. Medicines were given from numbered bottles, and the pupils had not the slightest idea of what the bottles contained. The lecture course usually at this time includes biology, bacteriology, materia medica, medical and surgical diseases, dietetics, and lectures on invalid occupations, massage, bandaging, and an infinite number of other subjects. The only duty the nurse had in those early days was private nursing in the home, except for the very few who became superintendents of training schools and small hospitals. In the early days of nurse training there were no examinations for admission or other admission qualifications, while at the present time there are nurses' registration laws in thirty-seven states. Dr. Howland thought that, while there is a great and apparently growing scarcity of nurses in all the fields of nurse occupation, when women of intelligence and education come to realize that long hours of hard, unnecessary manual labor and poor conditions do not exist, and that the remuneration for nursing service is fairly abreast of that in other occupations, very many young women who are now becoming secretaries, stenographers, bookkeepers, librarians, and teachers would seek the nursing profession as a life occupation.

Dr. Howland finds that there is definite and country-wide recognition of the necessity to train nurses along higher levels, and he named a number of institutions that had already invaded this field of higher training—Simmons College of Boston, the University of Minnesota, Columbia University, the Springfield (Mass.) Technical School, the Technical School of Toronto, Can., and others.

M. E. McCalmont, in the July number of the *Brickbuilder*, states that there is a no more neglected subject in hospital construction than the problem of lighting. The A B C of the subject has scarcely been formulated. The nervous irritation, conscious or unconscious, which results from a well person being obliged to face directly for any length of time a glare of light, must become at least a subconscious agony in the case of sick persons. Yet for years we have placed glaring ceiling lights in the private rooms, sublimely unconscious or cruelly indifferent to the acute discomfort of and pernicious effect on the patient.

The Brehon laws of early Ireland, perhaps the first legal recognition of the hospital as an institution, provided that the hospital must be kept free from debt, must have four doors for ventilation, and that a stream of water must run free through the middle of the floor. "Dogs, fools, and scolding women" were to be kept away from patients.

BRITISH MEDICAL ASSOCIATION MEETING —HOSPITAL DISCUSSION.

"Hospitals in the Melting Pot"—Medical Profession Disorganized—Proposed Program of Reconstruction.

London, July 26, 1913.

During the last week the eighty-first annual meeting of the British Medical Association has been held at Brighton under the presidency of Dr. Ainslie Hollis. Yesterday the Section of Medical Sociology devoted its energies to a discussion concerning hospitals in relation to the state, the public, and the medical profession, thus affording, if such were needed, further justification for the statement that medical opinion certainly, and lay opinion in less measure, is grievously disturbed at the present moment in respect of certain fundamental questions affecting medical institutions.

Dr. Ryle, the cultivated and dignified president of the section, opened the day's proceedings with a few thoughtful words, in which he emphasized the proposition that the state, the doctor, and the individual are all concerned in the organization of the hospital system. He then made way for Professor Benjamin Moore, of Liverpool.

Professor Moore, who, although of course a medical man, does not practice, and who teaches biochemistry at the University of Liverpool, has of recent years become widely known as one who takes a keen interest in medical sociology, writing freely on the subject. His name is connected, in the minds of most of us, with somewhat drastic schemes of medical and social reform, including the complete reorganization of the medical profession as a state service, analogous to that of the army, the police, or the post office. As a necessary corollary to the organization of a state medical service comes, of course, the organization and control of hospitals by the state; and few, I fancy, would have been surprised had Professor Moore declared, with Sir William Osler, that the day for voluntary support of hospitals has gone by. But he did not proceed so far. On the contrary, after pointing out that the hospital of the future must fulfill three functions—those of prevention of disease, of treatment, and of advancing knowledge—and that there must be some rearrangement of the present system or lack of system whereby municipal authorities, poor law authorities, and voluntary organizations are each and all separately engaged in the task of hospital provision, he went on to declare that a new and unified system need not lead to the loss of voluntary help from present workers, or to the loss of pecuniary aid from present donors. Indeed, he was careful to insist that, although the signs of the times everywhere point toward increased appreciation of the work of hospitals, and rapid approximation to a system of national hospitals, yet, with the organization of a national or municipal system we must be careful to preserve the glorious example that has been set us in the past of personal charity and devoted effort. Nor does he even expect that, with the formation of a state or municipal system, such loving care for the sick as has been exhibited in England in the past will pass away. As he said with truth, such arguments as are now used to oppose the passing of the voluntary system from the hospital world have always been used whenever, in respect of any system, the question of substituting a publicly controlled organization for purely voluntary work has been mooted. Experience, how-

ever, has shown us that, whenever, in the course of the development of local government, formally constituted public bodies have taken over duties previously performed by unofficial associations or individuals, the personnel of those interested has been hardly changed. So will it be that, as hospitals are brought under municipal control, there will still be scope for personal and effective work by those who seek neither emolument nor reward.

Professor Moore illustrated his argument by reference to the parallel case of modern municipal universities. Here financial support is derived in part from students' fees, in part from voluntary gifts, and in part from state or other contributions derived from the proceeds of taxation. So must it be with the controlled hospital of the future, that there are grants from the rates, gifts from the charitable, and fees from those who can and should pay.

Again, looking forward, Professor Moore expressed the hope that ultimately every practicing doctor in a neighborhood will be brought into some form of organized relationship to the local hospital, which, under local public control, ought to be a part of the coordinated machinery set up for the maintenance of the public health in any district. It was suggested, too, that a convenient unit of population to be served by any one hospital would be represented by an urban district of 100,000 persons, while the hospital itself should contain about 100 beds, and would be connected with the work of some sixty doctors.

In his final words Professor Moore hinted, if he did not actually restate, his belief in the future necessity for the creation of a state medical service, in which every medical man should have some definite function in connection with hospitals; so that, while some should conduct the present in- and out-patient services, others should visit sick persons in their own homes. Professor Moore's address, which was accorded very hearty indications of approval, was succeeded by a paper read by Dr. Gibbons, who, though not a medical man, is well known for his important and informing book on medical benefit in Germany and Denmark. He described for us the working of the municipal hospital in Germany, giving a lucid and connected account of the machinery whereby hospitals are in that empire created, and of the methods by which they are administered. The fact that there has been such a large increase of hospital accommodation in Germany in recent years received due comment and explanation, it being suggested that the spread of insurance on the one hand and the desire for institutional treatment on the other were partly responsible. It was said that, while payment for treatment has to be made in every case (by the poor law department, by the insurance societies, or by the patients themselves), in different cases the payments made bear different proportions to the expenses incurred; and at the same time there are differences in the accommodation and food provided.

The disturbing feature is the enormous increase in the cost of providing hospitals of late years, and, moreover, the very great variation that obtains in different instances in the cost per bed. Dr. Gibbons said that there is an increasing feeling in Germany that, though it is well to take care of the ratepayer when sick, yet he deserves some consideration when well.

An interesting point made was that the cost of nursing is also increasing, although, when the nursing service is provided, as it sometimes is, by religious orders or associations, the expenditure in this direction is kept down.

In concluding his remarks, which, together with Professor Moore's paper, will be printed in the *British Medical Journal* for August 2 of the present year, Dr. Gibbons declared that, though there is much to admire in the German system, yet it is not wholly satisfactory, nor perhaps is it wholly to be commended as applicable to a country such as Great Britain, where the genius and habits of our people are not entirely Teutonic. Still, it must be confessed that Dr. Gibbons hardly indicated—perhaps he did not feel called upon so to do—in what direction he thought the German system should be amended, or of what modifications he believes it to be susceptible in order that it may be made more suitable for the British Isles.

Professor Dr. Pfeiffer, director of the State Hospital at Essen, in an address couched in excellent English, and admirably read, followed with some account of the German hospital system from an internal point of view, and mentioned that it is incumbent on those medical students who desire to enter into general practice to serve, for at least a year after qualifying as a resident officer, in a state hospital. Surely a most excellent plan, and one that we wish could be adopted in this country, where the shortage of candidates for resident appointments—as house surgeons, house physicians, and the like—is being seriously felt. For one of the curious consequences of the greater care now taken by the state of the sick in England is that more and more do young men, on becoming qualified, pass at once into one of the public medical services, so that fewer and fewer fit themselves for general practice by learning, as interns, to deal with emergencies and to assume responsibility.

Professor Dr. Grober, of Jena, who succeeded Dr. Pfeiffer in the rostrum, while covering much of the ground that had been occupied by the preceding speakers, yet contrived to impress his own very decided and forceful personality on the gathering. He told us that, while on an average some five beds per thousand of the population were provided in the German public hospitals, yet this was not enough, and that the increasing demands for accommodation in hospitals and for expenditure on and at hospitals was truly enormous. Yet, while in great part this increased expenditure is due to what the speaker called the senseless demand for pure luxury on the part of the working classes, on the other hand it is due in great part to the increased cost of land, of building materials, and of labor, while at the same time the demand for expensive technical fittings does not diminish. It is not easy, then, to see in what way expenditure can be kept down, although, as has been said, idle luxuries and architectural extravagances must be dispensed with. Another point made, and one amplifying the remarks of Dr. Gibbons, was to the effect that, on account of woman's emancipation, the desire to be a nurse has notably diminished in Germany, so that there is prospect of very real difficulty shortly occurring in finding adequate supplies of nurses at a tolerable rate of remuneration. An excellent point made by Dr. Grober was that, since private as well as public hospitals are in Germany subject to state regulation—for private clinics have to conform to certain ordinances—there is no monopoly, while at the same time there is efficient control. That such conditions should obtain, now that the "hospital habit" is becoming fixed, is surely important. Dr. Grober insisted on the educational value of the hospital, not merely in respect of bodily health, but in other ways, and suggested that actual weakening of the moral fiber of a nation might ensue if absurd luxury is to be inculcated by example during residence in hospital wards. He suggested, moreover, that something might be done in the direction of grading hospitals, and that institutions of a rather different character from some

of those lately built might be provided, in situations where land is not expensive, in which the more chronic invalids might be received. Such institutions, the Professor, with delightful naivete, thought might be made more "homelike" in character. It occurred to some of the audience that a general provision of homelike institutions might lead, in a few years, to a large part of the population living on the rates in such places. We know that the inhabitants of the Scilly Isles are said to "eke out a precarious livelihood by taking in each other's washing," but the idea of a large portion of a nation boarding themselves out in hospitals of a homelike character is even better. Professor Grober, however, probably meant that such secondary institutions as he has in mind should be severely plain and businesslike, and his idea has much to commend it.

Again, it was urged that it would be well for the public to have increased knowledge of hospital necessities and methods of administration—in a word, publicity is needed. At the present time the medical profession is held responsible for all that occurs in hospitals, yet, in every German hospital at any rate, the doctors are not necessarily supreme. There are lay directors as well as medical directors. Truly enough, as Professor Grober said, if the doctors are to be held responsible, they must be given administrative power. To secure such control is one of the aims of the Bund, the professional organization or "trades union" of state hospital doctors, that has already been so successful in obtaining many desired reforms, and that unites, in such whole-hearted fashion, the state medical service in Germany.

On the whole, in Dr. Grober's mind there is, as he said, little doubt that things are really going on very well in Germany, and will go on still better. One desideratum there does exist—namely, the supply of a sufficient number of good medical men, who are not only well equipped professionally, but who are capable administrators.

Professor Grober's paper was really an excellent one. Clear-cut and definite ideas were firmly expressed, and the impression left on the mind of the audience was that in the author we had a notable justification for the remark, attributed by Professor Lindsay, of Belfast, to an observant lady, that "really, these Germans are so horribly efficient."

Sir Henry Burdett, who followed Professor Lindsay in the debate, took occasion to restate some of the views that he expressed at the Oxford meeting of the Hospitals Association, but carried his audience with him in declaring that politicians are the curse of the sick, and care only for hospitals and health matters when served up as an election dish. Of course, any politician who takes a serious interest in these questions becomes a statesman; so perhaps the dictum is not so far wide of the mark.

Sir Henry has a notion, to which he attaches some importance, that the voluntary system, as we call it, may yet be saved if only the state will grant loans for building hospitals which would admit paying as well as nonpaying patients, and he says that he sees no reason why such loans should not be granted to hospital corporations as freely as to municipalities. Yes, but municipalities hypothecate their rates and other assets as security, and no municipality would "go surety" for a hospital unless control were to be granted. If control be granted, then a state of affairs indistinguishable from that now obtaining in Germany, with the exception that some charitable donations and bequests might still be made for special purposes, would obtain. The voluntary system would indeed then break down.

The impression left on the mind by the speeches was: that the voluntary system, as we know it now, is doomed; that some approximation to the German system will inevitably occur; that probably this will come about through municipalities being granted control in proportion to the aid they bring; and that the English hospital of the future will be, as most things English are, a perfectly illogical, unjustifiable, but nevertheless admirably successful, institution. In it there will be a curious and quite inconsistent blend of state aid, municipal control, and voluntary or charitable assistance. In such hospitals, rich, middle class, and poor will be admitted—probably each class in different pavilions and at different rates of payment. Whether, as in Germany, all kinds of ailments, infectious as well as others, will be treated in one huge institution, it is difficult to say. Probably we shall, as at present, draft our "fever" cases and our "mental" patients to special hospitals or asylums. Whether paying patients in municipal hospitals will be attended by their own doctors or by the hospital staff it is hard to say, but perhaps on this point, too, there will be compromise.

One thing alone is certain. Our hospital system is in the melting-pot and the medical profession is in a state of disorganization.

F. G. Crookshank, M. D.

Employment of the Insane.

The director of the provincial insane asylum of Lublinitz in Germany, according to the *Zeitschrift fuer Krankenanstalten*, Vol. 9, 1913, No. 22, reports that he has introduced the handloom and weaving as a means of employment for his patients. This form of occupation has found a foothold in several institutions in Sweden, Ireland, Germany, and Italy. In Sweden it has been possible to train suitable patients to such a degree of skillfulness as to be able to make imitations of French tapestries. This is, of course, the exception. On the other hand, it has been possible to arouse an astonishing amount of interest and zeal in individuals who had previously sat dull and indifferent to their environment.

Quite a great deal of difficulty was encountered at the beginning in first getting the proper looms and then in securing an efficient instructor. After the preliminary difficulties were mastered, however, it was possible in one year to earn more than one-half the cost of the looms and the raw material used.

All the material woven was for the use of the institution, such as the following articles being made by the patients: toweling, cotton for shirting, tablecloths, aprons, woolens for men's and women's garments and for blankets, cloth for cleaning kitchen utensils, etc.

The very self-evident benefits to be derived by patient as well as institution certainly should commend themselves to those connected with asylums for the feeble-minded and the insane.

In an exhibition of the Philippine health department held in Manila recently one of the most popular exhibits was an operating "infant feeding" booth. A trained nurse from the General Hospital showed how it was all done—the washing of the bottles under sterile conditions, the cleaning of the nipples, the washing of the utensils, preparation of formula milks, and the feeding of the baby. "Before" and "after" babies were also shown. On the whole, it was a wonderful demonstration to people who had been accustomed to losing most of their babies during their infancy.

THE BOSTON MEETING OF THE AMERICAN HOSPITAL ASSOCIATION.

The Program—An Anticipation.

TUESDAY, AUGUST 26.

10 A. M.

Registration and enrollment.

MORNING SESSION—11 A. M.

1. Invocation—Right Reverend William Lawrence, Bishop of Massachusetts.

2. Address of welcome—Hon. John F. Fitzgerald, Mayor of Boston.

3. President's address—Dr. Frederic A. Washburn, Administrator Massachusetts General Hospital, Boston, Mass.

4. Report of Committee on Medical Organization and Medical Education—Dr. Rupert Norton, Assistant Superintendent Johns Hopkins Hospital, Baltimore, Md.

AFTERNOON SESSION—2:30 P. M.

1. The Relation of Hospital Efficiency to the Efficient Organization for Home Nursing—Mr. Richards M. Bradley, Boston, Mass.

2. The Grading of Nurses—Miss Mary M. Riddle, Superintendent Newton Hospital, Newton Lower Falls, Mass.

3. Report of Committee to Consider the Grading and Classification of Nurses—Miss Charlotte A. Aikens, Chairman, Detroit, Mich.

WEDNESDAY, AUGUST 27.

SECTION OF LARGER HOSPITALS IN THE LOWER AMPHITHEATER OF THE OUT-PATIENT DEPARTMENT AT THE MASSACHUSETTS GENERAL HOSPITAL.

MORNING SESSION—10:30 A. M.

1. Inspection and Standardization of Hospitals—Dr. John Allan Hornsby, Chicago, Ill. Discussion by Dr. Ernest A. Codman, Boston, Chairman of Committee on Standardization of Hospitals, Clinical Congress of Surgeons.

2. Record Keeping at the Massachusetts General Hospital—Dr. Byam Hollings, Assistant Administrator Massachusetts General Hospital.

3. Report of Committee on Hospital Construction—Dr. John M. Peters, Superintendent Rhode Island Hospital, Providence, R. I.

SMALL HOSPITALS' SECTION AT THE COPLEY-PLAZA HOTEL. MISS MABEL MORRISON, VICE-PRESIDENT, CHAIRMAN.

MORNING SESSION—10 A. M.

1. How the Small Hospitals May Be Made Self-Supporting—Mr. G. W. Olson, Superintendent Swedish Hospital, Minneapolis, Minn. Discussion.

2. Ambulance Service for Small Hospitals—Miss Margaret M. Moore, Superintendent Jackson City Hospital, Jackson, Mich. Discussion.

SMALL HOSPITALS' SECTION (CONTINUED).

AFTERNOON SESSION—2:30 P. M.

1. What the American Hospital Association Can Do for the Hospitals of America—Mr. E. P. Haworth, Superintendent Willows Maternity Sanitarium, Kansas City, Mo. Discussion.

2. The Employment of Third-Year Pupils as Special Nurses—Miss Mary Alberta Baker, R. N., Superintendent St. Luke's Hospital, Jacksonville, Fla. Discussion led by Miss Nora D. Abbe, Samaritan Hospital, Ashland, Ohio.

SMALL HOSPITALS' SECTION.

EVENING SESSION—8 P. M.

ROUND TABLE.

1. How counteract the pauperizing effect of charity hospital services for people who can pay partially or entirely for their care?

2. Is a preliminary course feasible where the high school standard for admission has not been fully adopted?

3. What are some of the advantages with paid instructors for the lecture course in training schools?

4. What is the most ethical means of advertising small hospitals?

5. Should not the use of typhoid serum be made obligatory in training schools?

6. The employment of nurses in preference to interns as anesthetists.

7. The social side of training school life.

8. The prevention of disease among pupil nurses.

9. The relation of the hospital to the organized charities of a city.

10. How best secure the loyalty of nurses?

THURSDAY, AUGUST 28.

MORNING SESSION—10 A. M.

Report of Membership Committee.

Report of Treasurer.

Report of Auditing Committee.

1. Report of Committee on Out-Patient Departments—Mr. Michael M. Davis, Jr., Director Boston Dispensary, Boston, Mass.

2. The Hospital and Dispensary and Social Reform—Mr. Sidney E. Goldstein, Director Free Synagogue, New York, N. Y.

3. Hospital and Asylum Workshops: Some Possibilities of Handicapped Labor—Dr. Herbert J. Hall, Marblehead, Mass.

AFTERNOON SESSION—2:30 P. M.

1. National Insurance Act as It Affects Voluntary Hospitals and the Medical Profession of Great Britain. The Effects of the Insurance Act on the Hospitals of Germany—Dr. D. J. Mackintosh, M. V. O., Medical Superintendent Western Infirmary, Glasgow, Scotland.

2. Certain Bearings Upon Hospital Problems of Compulsory Insurance and Workmen's Compensation—Dr. David L. Edsall, Massachusetts General Hospital, Boston, Mass.

3. (Subject to be announced later)—Conrad W. Thies, Esq., Honorable Secretary The British Hospital Association, Westminster, S. W., England.

EVENING SESSION—8 P. M.

Organization and Methods of Social Service as a Part of Hospital Work.

FRIDAY, AUGUST 29.

AFTERNOON SESSION—2:30 P. M.

1. Report of Committee to Memorialize Congress to Place Hospital Instruments on the Free List—Rev. George F. Glover, Chairman, Superintendent St. Luke's Hospital, New York, N. Y.

2. Report of Special Committee to Outline Standard Course in Hospital Administration—Dr. W. L. Babcock, Chairman, Superintendent Grace Hospital, Detroit, Mich.

Other Committee Reports.

Report of Committee on Time and Place of Sixteenth Annual Conference.

Report of Nomination Committee.

Election of Officers.

Introduction of President Elect.

Adjournment.

FRIDAY, AUGUST 29.

MORNING SESSION—10:30 A. M.

1. Report of Committee on Hospital Finances and Cost Accounting—Dr. William O. Mann, Superintendent Massachusetts Homeopathic Hospital, Boston, Mass.

2. The Private Patient's Relation to the General Service—Dr. Charles H. Young, Assistant Superintendent The Presbyterian Hospital, New York, N. Y.

3. The Question Drawer—Conducted by Dr. R. W. Bruce Smith, Provincial Inspector of Hospitals, Toronto, Ontario.

There are many good things to be found in the program for this year, and almost the entire field of hospital architecture, equipment and administration is covered.

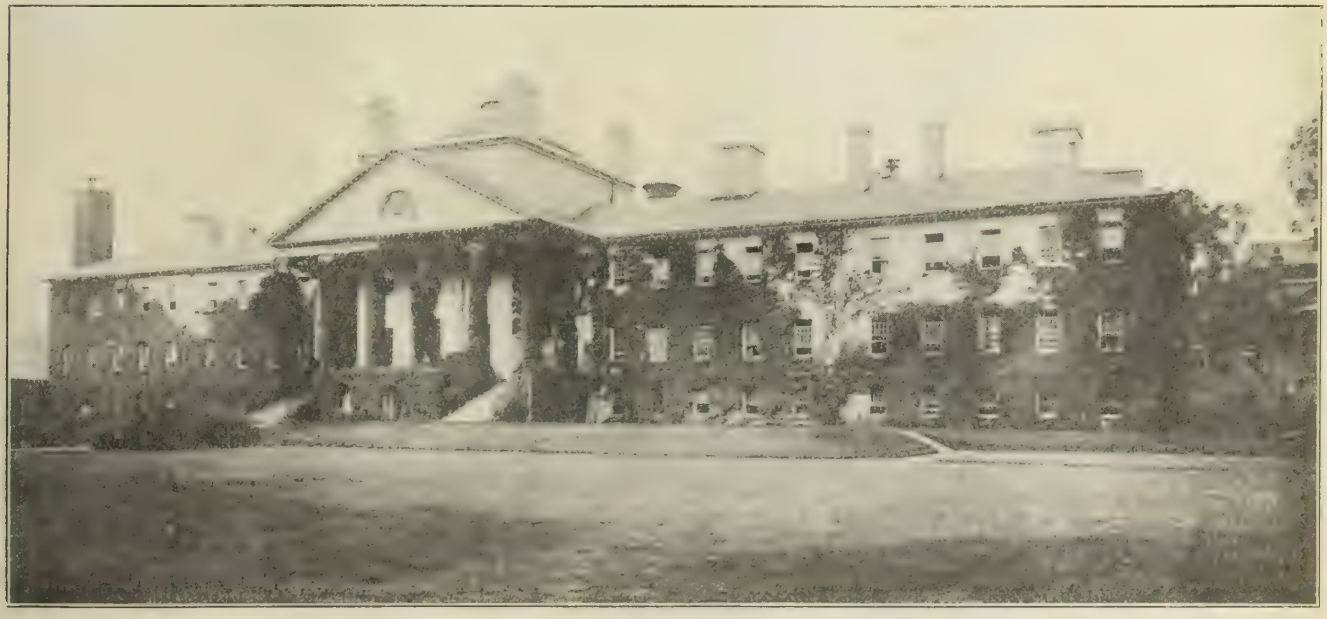
After the president's address—which, of course, we are not permitted to anticipate—the first paper will be that of Dr. Rupert Norton, which is in the nature of a report on medical organization and medical education.

No doubt Dr. Norton will tell us of the progress made in Johns Hopkins Hospital and the attempts at that famous institution to rehabilitate the medical staff by placing medical men on salary and employing all their time. It is understood there have been many difficulties in the way of the success of this ideal plan, and that it is not yet an accomplished fact. Dr. Norton will tell us also about the new staff organization of the Massachusetts General Hospital and that of the medical department of the University of Minnesota. The prediction may well be made that staff organization, with a chief of each department, is one of the things assured for the near future, and when that time comes the school hospital superintendent and the administrative officers generally will find their work made far easier in that there will be one staff officer to confer with and to make plans with instead of a number.

Mr. Bradley's paper on "The Relation of Hospital Efficiency to the Efficient Organization for Home Nursing" will give the writer of the paper an opportunity to help settle the very much befuddled question of private nursing. In a measure, Mr. Bradley will have a new viewpoint, and he should bring something fresh and new to bear on the nursing problem. Perhaps, after all, that problem is not so difficult of settlement as we make it out

to be, and that someone not quite so closely confined within the walls of the hospital has the key to the solution.

"The Grading of Nurses," by Miss Riddle, and the report on the grading and classification of nurses, form the balance of a symposium that ought to be most valuable. There are two viewpoints on this phase of nursing. One is, that there is a trained nurse, who is the product of the modern training school, and that she is the only one who can use the title or command the respect and remuneration due to a trained nurse, and that all others in the nursing field are "attendants." The other view is that there may well be three grades of nurses, the first to include highly educated women, who are qualified to take a rather intensive training, with a view to going into institution work as teachers and demonstrators; a second class, made up of young women of not quite so good a preliminary training and not quite so exhaustive a hospital training course—these women to do private nursing and special nursing in the hospitals; and a third grade, whose practice would be closely related to the practical nurses that seem now almost disappearing, and whose chief office would be to go into the home—the home of very moderate means—and help the mother, and do simple and plain nursing for patients not very sick, or at least not suffering from one of the obscure or exacting diseases. It is understood that the committee's report on this subject will lean toward the latter view.



MASSACHUSETTS GENERAL HOSPITAL—BULFINCH FRONT.

Wednesday's session is divided into two parts. The smaller section, embracing the larger hospitals, is to meet in the amphitheater of the out-patient department of the Massachusetts General Hospital. There will be three papers read in that meeting; the first by Dr. Hornsby, of Chicago, on "The Inspection and Standardization of Hospitals;" the second by Dr. Hollings on "Record Keeping at the Massachusetts General," and the third by Dr. Peters, of Providence, on "New Hospital Construction."

Dr. Hornsby's paper will undoubtedly deal with work that has already been done and work that is to be done in connection with a propaganda for some sort of standardization of hospitals. It was partly with a view to accomplishing this purpose that Dr. Hornsby favored the creation of a hospital section in the American Medical Association. In pursuance of the program he asked for and obtained a committee at the Atlantic City meeting to consider what might be properly done along these lines. At Minneapolis Dr. Hurd, chairman of the committee appointed at Atlantic City, reported progress and asked that the committee be continued for another year, which was done.

Dr. Hornsby, in his paper, will undoubtedly tell us just what is to be attempted, and why.

Dr. Hollings' paper should be most interesting. In the editorial part of THE MODERN HOSPITAL will be found an editorial by Dr. Hoffman, actuary of the Prudential Insurance Company, on hospital statistics and their value as a basis for reckoning hospital efficiency. If Johns Hopkins, as Mr. Hoffman says, is in the lead in its records and in its vital statistics, there are many who have felt that the Massachusetts General Hospital is a serious contender for the honors, and we have all come to look upon the records of the Massachusetts General Hospital as something well worth striving to emulate, and we will undoubtedly learn very much from Dr. Hollings' presentation of the whys and wherefores of the system.

Dr. Peters has a way of tearing away the veils and the mists from any subject he discusses, and his paper should be an illuminating one on the subject of "New Hospital Construction." There are so many new hospital architects these days, and so many architects who do not claim special knowledge in regard to hospital building, and there are so many fads and fancies being presented to boards of trustees and hospital superintendents, that it will be well worth while to pause at the Boston meeting for a summary and an inventory of where we are actually "at" in hospital construction. No one can make such a summary better than Dr. Peters.

A most excellent program is billed for Wednesday's session of the small hospital section. Mr. Olson's paper on "How the Small Hospital May Be Made Self-Supporting" comes first. This is one of the fundamental problems for the small hospital at the present time, and no one can treat that problem better than Mr. Olson, because for four years past he has been wrestling with it. Going

into a very small hospital four years ago, paying rent for the building over his head, he now comes out at the end of four years with a really fine institution, which no longer pays rent, but owns its own property and is independent and self-supporting. This paper ought to be one of the best on the whole program.

Ambulance service is a knotty problem in any institution, and is doubly hard for the small hospital, whose patronage is small and whose obligations are great. Miss Moore's exposition of this subject should be illuminating to the small hospital administrators. Shall they own an ambulance, and can it be made to support itself, and, if so, how? Or shall they have their ambulance service done by a commercial concern, such as the livery garage around the corner or the livery stable in the next block?

In the afternoon session Miss Baker's paper on "The Employment of Third-Year Pupil Nurses as 'Specials'" should arouse an excellent discussion. The leaders in many training schools in the country are seriously objecting to pupil nurses being allowed to serve as hospital specials. Miss Nutting and the Teachers' College of Columbia University take this view of it. On the other hand, a great many nurses out in the broad nursing field in this country feel that a nurse cannot be well trained unless she has special nursing to do for private patients during her course of training. The Illinois Training School of the Cook County Hospital turns out some of the best nurses in this country, and yet the heads of the training school and the doctors of the hospital, and the nurses themselves, feel that the absence of "special" work in the nursing of pay patients in the hospital handicaps them immeasurably when they go out into private practice.

On Thursday morning the sections come together again, and after the business meeting the first paper is by Mr. Davis on "Out-Patient Work." Mr. Davis is perhaps the most largely experienced dispensary man in this country, and it may be hoped that he will take up, in an advisory way at least, the problems incident to the conduct of a dispensary in connection with the average hospital. There are many reasons why every hospital should have its own out-patient department. Perhaps there are reasons against this also. It would be an excellent thing if Mr. Davis would enlighten us on these questions. Mr. Goldstein will undoubtedly take the social side of the dispensary from the viewpoint of the church, a subject that has not been quite so fully discussed among hospital people and one that is well worth discussing. The last paper of the morning, that by Dr. Herbert J. Hall, of Marblehead, Mass., is on a subject that will probably occupy the attention of hospital and institution people generally more than any other for the next few years. The question of whether the "rest cure" is the thing to encourage with hospital patients, or whether they will do better by a well-modulated exercise, or at least occupation, is a vital one, and many splendid sociologists and administrators are insisting on occupational treatment for many classes of invalids. Dr. Hall has gone a step further, and is finding work and a niche in the world for people who have been despoiled of their ability to compete against their fellows either by sickness or injury, and Dr. Hall thinks that a great percentage of these people can be shown new lines of service, where they can earn their way and be self-respecting. Dr. Hall's work in this field has given him a most enviable position in the medical profession as well as in social and sociologic service.

We have heard a great deal of the British Insurance Act and the Workmen's Compensation Law. The enactment of these laws has established an epoch in Great Britain, and they serve to burn the bridges between the past and the future. If Lloyd-George's plans that have been focused on these laws are correct, then Great Britain is entering upon a new era, with just what result remains for the near future to determine. The enactment of the laws was a highly hazardous thing. Great Britain's splendid hospitals have been supported by voluntary contributions, except in a few cases where the institutions themselves have carried fine endowments gathered in the course of many decades. The people of Great Britain say now that, if provision is made in these laws by which employers and insurance companies are compelled to take care of patients in the hospitals, then it is no longer necessary for them to continue their voluntary contributions. It has been freely predicted that many hospitals of Great Britain would go out of business as a result of these laws. None have died up to date. The papers by Dr. Mackintosh, of Glasgow, than whom none is better posted on these subjects, and by Dr. Edsall, of Harvard, should contain very much of extreme value to the people of this country because we are coming very close to a time when these same problems must be solved here, and all the sooner because of very recently enacted laws in some states, very much after the pattern of those we have been discussing.

MASSACHUSETTS HOMEOPATHIC HOSPITAL, ERECTED 1908—DEPARTMENT OF CONTAGIOUS DISEASES. CAPACITY, 150 BEDS.

Friday morning's session is taken up by papers from Dr. Mann and Dr. Young, the one on "Hospital Finances" and the other on "The Private Patient's Relation to the General Service," two subjects which overlap each other and are very intimately connected because there are a great many hospitals in this country today whose finances depend on the private patient, and in which the private patient bears a very pronounced relation to the general service—that is, the service of all classes in the hospital. Moreover, a hospital that has only public ward patients will be a vastly different thing, in so far as its cost ac-

counting and its finances are concerned, from the hospital in which there are private patients to be considered, because there is no doubt that the presence of private patients increases the consideration toward the free patients.

BOSTON CITY HOSPITAL—PAVILION III, WARDS K, L AND M.

Interesting Sights of Boston.

No doubt Boston is the most interesting city in the United States. To many of us the coming convention will be looked forward to with an immense amount of pleasure—some of us because of the renewal of old friendships, and the enjoyment again of scenes which we may have been over, but which are inextricably connected with the history of our country; some of us have never been there before, and the landmarks of the struggles of our ancestors, known to us only in song and story, give a bewitching interest to the city.

The Hospitals of Boston.

To us hospital people the hospitals of Boston will appeal especially, and there are some things about them that differentiate them from the hospitals elsewhere in this country.

In the Massachusetts General Hospital we have a private institution so splendidly supported that it can afford to treat free patients just as it treats its private patients.

In the Boston City Hospital we have a public hospital supported by public taxes, and yet an institution the peer of any in this country in architecture, in equipment, and in administration. The people of Boston take a justifiable pride in their city hospital, and it seems to have all the money needed for a splendid administration, largely for the reason, no doubt, that, unlike any other municipal hospital in this country, it is wholly dissociated from politics.

In the Peter Bent Brigham Hospital we have the apotheosis of the modern general hospital. With abundant money in the hands of some of the best hospital workers of the day, an attempt was made in this institution to build an ideal hospital. It will be a great pleasure to us who have not seen it before to know just how Dr. Howard has solved some of the problems with which we are all vexed at one time or another.

The Massachusetts General Hospital.—This is the third oldest hospital in the United States, those older being the Pennsylvania Hospital, of Philadelphia, and the New York Hospital. The Massachusetts General was incorporated in 1811, but it was ten years later before it was opened for the reception of patients. There are three departments of the hospital—the General Hospital, in Boston; the McLean Hospital, of Waverly, for the care of mental and nervous cases; and the Convalescent Hospital, also in Waverly. There are many interesting things about the Massachusetts General Hospital besides the exceptionally high character of its administration and its services. It is the institution in which ether was used for the first time as a surgical anesthetic on October 16, 1846, and it is understood that the old operating room in which this first operation was performed will be open to the view of members of the association. The record-keeping system of the Massachusetts General is very worthy of a close study by those who are interested in correct records, and every member of the association should by all means learn something about the out-patient service of this institution. There were 136,000 visits made to the out-patient department during 1912. Another extremely interesting feature is the Zander room for mechanotherapy. Physical therapy of all sorts is coming into general use in the hospitals of the country, and the hospital administered by any one of us may be interested in that problem in the very near future, and we should be thoroughly posted about what is being done elsewhere.

The Peter Bent Brigham Hospital.—The Peter Bent Brigham Hospital is hardly completed. It is intended to have 200 beds, and will cost more money than Dr. Howard would be willing to admit, but it is said to be the last word in modern hospital construction. Naturally every member of the association will be intensely interested in its many features, the chief of which perhaps, to the mind of the average hospital superintendent, is the arrangement of the ward and its auxiliaries, which is treated more at length and illustrated in another part of this number.

MASSACHUSETTS HOMEOPATHIC HOSPITAL—CLINICAL RESEARCH AND PREVENTIVE MEDICINE.

The Boston City Hospital.—The Boston City Hospital looms up large on the hospital horizon of this country because, as was said in the introduction, it is the one

public hospital not in politics. There are five distinct branches of the City Hospital—the hospital proper, the south department, the Haymarket Square Relief Station, the East Boston Relief Station, and the Convalescent Home. There are 1,061 beds in the hospital. The most interesting feature of this very interesting institution is its superintendent and its personnel, and the interesting thing about all the people is the immense personal pride they take in their hospital, as going to show that the institution stands for an extraordinarily high order of service and that everyone connected with it feels that he and she will remain there as long as they give a proper service to the patients and to the city. The photograph on another page, taken during the review of the ambulance service of Boston by the American Hospital Association, in September, 1905, will be of interest to those who were present at that time.

Massachusetts Homeopathic Hospital.—The Massachusetts Homeopathic Hospital is also a fine institution of 400 beds. Its special feature is the new infectious disease hospital, the architecture and administration of which will more than repay careful study and an extended visit because it represents a class of architecture that is very much in the public mind just at present.

Children's Hospital.—The new Children's Hospital connected with the Peter Bent Brigham and with Harvard Medical School, and containing 100 beds, is another expression of the newest features in children's hospital construction. It is not yet finished, but will be well worth a visit. A short account of it appears elsewhere in this number.

Boston Floating Hospital.—The Boston Floating Hospital, with 120 permanent beds and an additional accommodation for 120 day patients, should also be visited. It shows what can be done in the harbor of a great city for the children of the poor.

Devereux Mansions.—Devereux Mansions, at Marblehead, is one of the most talked of institutions in the country today, because Dr. Hall, the executive head of it, is conducting there workshops for handicapped and helpless people. People who have been maimed or crippled, or rendered unfit for the world's competition, are being taught industries that will give them a living, and that will replace them into society.

Boston Dispensary.—Mr. Michael Davis' administration has placed the Boston dispensary at the head of institutions of its class in this country, and those who are interested in out-patient work, social service, and dispensary work generally must by all means visit Mr. Davis and his interesting institution.

Newton Hospital.—The Newton Hospital, under the direction of Miss Mary Riddle, shows what a 200-bed hospital can do under the administration of a capable and competent woman. It has surgical, obstetrical, and contagious departments.

Boston State Hospital.—The Boston State Hospital, with its 1,200 beds for the insane, is especially noted for the new psychopathic department at 74 Fenwood Road. This is one of two institutions in this country that represent practically a new field of medical science, or at least they stand for new methods of treatment of a large percentage of the mentally unbalanced, the Phipps Institute of Johns Hopkins Hospital being the only other institution of this kind. Dr. Southard's administration and the application of his method of treating these classes of cases has drawn wide attention to Boston in the last year or two. Those who have anything to do with the care of disturbed patients, and patients who have needed restraint under older methods, should certainly visit the Fenwood Road Hospital, because they have done away with restraint there even in violent cases, and are employing instead hydrotherapy and physical therapy of various sorts.

There are many other splendid hospitals in Boston, some special in character, like the Robert B. Brigham Hospital for Incurables; the Vincent Memorial Hospital for Women and Girls; the State Infirmary at Tewksbury, with its 300 beds for consumptives and 700 for insane; the New England Hospital for Women and Children; the new and as yet unfinished Massachusetts Hospital School, intended to have 240 beds; the Massachusetts Charitable Eye and Ear Infirmary, to which so many students and would-be specialists in diseases of the eye and ear come for postgraduate work; the Holy Ghost Hospital in Cambridge, with its 110 beds for tuberculosis, cancer, paralysis, and other incurable diseases; the House of the Good Samaritan, for practically the same classes of cases; the Huntington Memorial Hospital, whose chief purpose is to afford opportunity to medical men for the investigation of malignant tumors; and there are many other institutions with interesting history and interesting special features.

BOSTON CITY HOSPITAL—BIRD'S-EYE VIEW.

FOREIGN CORRESPONDENCE

LONDON LETTER.

Oxford Meeting of Hospital Superintendents—Tuberculosis In General Hospitals—Private Rooms for Pay Patients—Osler's Advice.

London, July 30, 1913.

Last month was rendered notable for the hospital world by reason of the holding, at Oxford, of the fourth annual conference of the British Hospitals Association. About a hundred representatives, both lay and medical, gathered at the historic seat of learning on June 19th and 20th, under the very appropriate presidency of Sir William Osler, as all the world knows, regius professor of medicine in the University. After the formal, but none the less sincere, exchange of such complimentary salutations as are usual on these occasions (in this case between the vice-chancellor of the University and the mayor of the city on the one hand and the representatives of the association on the other), Sir William delivered his address, which was not only listened to with the extremest interest, but has attracted considerable attention in the general press.

Candor compels an Englishman to say that Sir William, after reviewing his experiences at home in America and elsewhere, roundly condemned the many of our provincial general hospitals as being, in certain respects, hopelessly behind the times. In thus laying about him lustily, Sir William Osler had in mind not so much the merit of the medical and surgical skill provided as the adequacy of the arrangements made for the prosecution of bacteriological and pathological research. He insisted (and no one can say him nay) that it is on chemical and bacteriological research that modern medical science is built up, and that proper treatment cannot now be given to patients unless proper attention is paid to this side of hospital work. Proceeding, the president raised what he spoke of as another delicate question in suggesting that in small hospitals, with only a comparatively few beds, the right thing would be to have only one or two doctors on the visiting staff, and for them to be restricted to consulting work, whilst being paid such a salary as would enable them to devote more time to the care of patients and to investigation.

Sir William Osler's most caustic comments were, however, reserved for our obstinate adherence to what is known as the "voluntary system." In England, with the exception of those places in which persons who are paupers and none other are treated, and those institutions in which persons who are insane or suffering from infectious diseases are maintained, hospitals are supported entirely by the subscriptions and bequests of the charitably disposed. Since the services of the visiting medical staff are, as a matter of course, under these circumstances purely gratuitous, it has come about that, with but a few very inconspicuous exceptions, the London and provincial hospitals do not admit into their wards, save in emergency, any but those who cannot pay medical fees. A consequence is that, as has often been pointed out, and as Sir William drove home with forcible phraseology, while everything is done for the poor, nothing is done for the rich. And an Irishman would say that even less is done for those who are neither poor nor rich than for those who are either one or t'other. He said, in words that are destined to be cited repeatedly: "If John Hodge has acute appendicitis, he is taken into a beautiful hospital and operated upon in a splendid operating room, with all modern advantages. He is put into a big, airy ward, and spends his convalescence on a balcony surrounded by all the advantages the hospital administration could give. What happens to 'Lady Clare Vere de Vere?' When she has acute appendicitis she is taken to a stuffy house, which has been transformed into a nursing home, and operated upon in a back room, transformed into an operating theater. No wonder she hates doctors, nurses, and the medical profession. Such experiences have alienated very largely the upper classes from the profession of science and medicine. Many nursing homes are admirable and up-to-date, but many are not; in fact, not one can take care of a patient as well as the general hospital."

Herein Sir William, acutely enough, put his finger on a curious want in our English life that has often been felt, but seldom better expressed; and one is reminded of the excellent story (which, I believe, has been ascribed to the "eminent raconteur, Ben Trovato") that when many years ago King Edward VII., then prince of Wales, was at death's door from typhoid fever, his royal mother asked Dr. William Gull, as he then was, if he were satisfied with the nursing. "Madam," replied Gull, "his Royal Highness is as well treated as if he were in my wards at Guy's."

The real truth is that, although a paying hospital, to which I will refer presently, is about to be opened in London, much in the way of providing hospital treatment for the middle and upper classes cannot well be arranged until the "voluntary" hospital system is abandoned; until medical services in the hospitals are remunerated either by fee or by salary and hospitals themselves are maintained either by the rates or by the payments of persons admitted and treated. It has always seemed to me, as one who has had experience of "isolation hospitals," to which ratepayers and their dependents are admitted free, that payment made through the medium of the local rate collector merely represents an insurance premium for hospital treatment in the event of an infectious fever being contracted. So, if our voluntary general hospitals are to be "municipalized," the contributions of the ratepayers should entitle them to certain benefits without additional payment. But Sir William Osler urges that our general hospitals must take pay, telling us again that there is no "general hospital in Canada or the United States that does not take all the money it can get from all classes of patients."

That the voluntary system should go, not everyone, however, agrees; that it will go, on the other hand, few care to deny. The fact is that the insurance act, of which probably you have heard more than enough, has completely revolutionized the conditions of medical practice, and it is inevitable, as Sir William clearly sees, that the general hospitals will have to be linked up with other parts of the machinery for caring for the health of the units of which society is composed, and that in this process

of linking up there will be a very considerable readjustment of affairs.

The hospitals must be, from one point of view, a place to which the state panel doctor can go for aid; from another, it must be a place in which the middle classes, and the wealthy ones, too, can secure at least such advantages as those now offered without stint to the least deserving of the community. Indeed, discussion of the effects of the insurance act was an inevitable part of the proceedings of the conference, and the paper read by Dr. D. J. Macintosh, of Glasgow, who, while hesitating to admit that the voluntary system has broken down, agreed that we have to consider seriously that our position is an important one. With respect to certain legal questions raised—as to the possible recovery, under certain circumstances, by hospitals of sick benefit from insured persons —Dr. Macintosh advocated a year's delay for reflection before initiating united action.

Sir Henry Burdett, as did other speakers, agreed with the acceptance of the principle that paying patients should be admitted to our general hospitals, and he suggested that the government should lend money to hospitals in order that additional pavilions might be erected for the reception of insured persons, insisting that the absence in the act of any provision for hospital treatment for insured persons was the great blot on the government's scheme. On the other hand, Mr. Cooke, of Chester, and Mr. Alvey, of the Charing Cross Hospital, London, thought Sir Henry's fears exaggerated, and his proposals for state loans unsatisfactory. Sir Thomas Oliver, of Newcastle, though unable to be present in person, sent a valuable essay, which was read by Mr. Cronshaw, dealing with the subject of "Tuberculosis and the General Hospital." He sought to show that, given good conditions and plenty of ventilation, the infectiousness of tubercle in the wards of a general hospital is slight. He dealt with a series of experiments he had made last year to test the infectivity of the expired air and of the sputum of phthisical patients, and stated that he got three phthisical patients to read aloud for ten minutes and cough into specially prepared agar-glycerine films, from which cultures were made and emulsions injected into the bodies of guinea pigs. Although all three were pronounced tuberculous subjects, yet from only one of them did tuberculosis in the animals follow. He proceeded to discuss the vexed question, "Ought tuberculous patients to be admitted into a general hospital?" and prefaced a lengthy argument by the curt statement of fact that they are in the wards of every general hospital, and "you cannot, in fact, keep them out." Sir Thomas gave instances of the many cases sent into general hospitals suffering from all sorts of complaints or as the result of accidents, yet becoming tuberculous. He quoted the case of a mason's laborer who fell from a scaffolding and sustained injuries to the wall of his chest. He was admitted to a hospital suffering from fractured ribs. Pleurisy developed and this was subsequently found to be tuberculous. This and many other instances were given to show that, although the authorities might by regulation exclude the tuberculous cases, yet in practice they were bound to admit them. In the general hospitals of Paris, which are state owned, two-thirds of the clientele were cases of tuberculosis. In conclusion he gave it as his opinion that the national insurance act would not affect general hospitals, as the panel service would be useless to cope with severe and protracted illnesses or surgical diseases, for the panel doctors had neither the time, means, nor surgical training and experience to enable them to deal with such maladies.

Dr. Duncan, physician to two large sanatoriums in Scotland, agreed with Sir Thomas Oliver in the utter impossibility of keeping tuberculous cases out of general hospitals, but urged the provision of separate accommodation. Hospitals should claim the cost of treating all such cases from the insurance commissioners, whether they are cases of tuberculosis of the lung or operative cases, and whether they are insured persons or not.

Mr. J. C. Buchanan, representing the Metropolitan Hospital, spoke of the arrangements made by his board for acting in conjunction with the public health authorities in the diagnosis and treatment of this disease.

One of the delegates mentioned that at Liverpool the insurance commissioners or corporation were paying the general hospitals 27s. 6d. per week for each case sent in, whether for operation or otherwise, and it did not matter whether the patients were insured persons or not.

Sir William Osler, in discussing the paper, advocated tuberculosis dispensaries in connection with general hospitals, and declared that the shocking condition of things revealed by the social service work at St. Thomas' Hospital indicated that the work of prevention would never progress until the conditions under which patients lived were improved.

The Rev. G. B. Cronshaw, replying to the various speakers on behalf of the author of the paper, outlined the attitude of the Radcliffe Infirmary in their cooperation with the local authorities and the insurance commissioners to fight this fell disease. Six beds had been placed at the disposal of the authorities; not that they had beds to spare, for they had not. On the contrary, every available bed was taken, and over 40 cases were waiting admission. Still, they had allocated six beds to the use of the city for this purpose. Also, the staff had agreed to place the outpatient department at the disposal of the tuberculosis officer at certain times, together with the use of all the apparatus. The city authorities agreed to pay 30s. per week for each of the six beds, and to work them for a year in advance, and this sum would also be supplemented by a donation to the funds. These beds would be filled at the instance of the city authorities, but the cases would be treated by the honorary medical staff, and would remain entirely under the hospital's control. Mr. Cronshaw concluded an impassioned appeal to the managers and doctors of the general hospitals to cooperate with the authorities to stamp out this disease with the words: "If as hospitals we do not help in this work, we are betraying the most sacred trust that has been imposed upon us. If we cooperate, it will not hurt the medical staff, and it will not hurt the board; but it will confer incalculable benefits upon a suffering humanity."

The building of the hospital of the future was the principal subject of discussion on the second day of the conference.

In a paper on the "Upkeep of Hospitals," Mr. Keith Young demonstrated how the cost of upkeep was seriously affected by such errors of construction as excessive length of corridors, which increased the cost of cleaning. St. Thomas' Hospital, London, was pointed out as an instance of what a hospital should not be, on account of the narrowness of the site, which necessitated ground-floor corridors covering over one-third of an acre.

Mr. Conrad commented on one of the latest and largest London hospitals in which the architect had incorporated a number of undesirable points. At St. Bartholomew's casualty cases had to be jolted upstairs in the ambulance instead of being wheeled smoothly up slopes. Sir Henry Burdett said that in his judgment the building plan of St.

Bartholomew's was wrong, and they could not find an architect to carry out in detail a modern hospital without getting such mistakes. Mr. W. Carul pointed out that a serious problem was that of the perfect floor, which yet had to be discovered.

Among those who debated the questions of an engineering, architectural, or building character were Mr. W. H. Walrond, consulting engineer to St. George's Hospital; Mr. W. G. Carnt, secretary Manchester Royal Infirmary; Mr. Arthur Griffiths, secretary East Suffolk Hospital; and Mr. J. Neil, General Hospital, Wolverhampton.

Sir William Osler, in winding up the discussion, said that he found in the Peter Bent Brigham Hospital in Boston the realization of a new ideal, both for the simplicity with which it had been built and for its management.

Afterward Mr. Conrad W. Thies spoke of the special qualifications now imperative to the secretary of the modern hospital, not the least of which, he said, was an intimate practical acquaintance with such matters as gas, electricity, drainage, and general building repairs.

It will be gathered from this necessarily very condensed report of the proceedings that the business side of the conference was not neglected, as sometimes is the case at such gatherings. And it will also be gathered that a feeling of considerable anxiety and unrest obtains at the present time among those responsible for the management of hospitals generally. Yet the forthcoming year will doubtless contribute, by the simple passage of time, to the solution of many problems that now press vexatiously. It is our national custom to "muddle through," and, as the late Lord Goschen once said, our motto very often is, "Solvitur ambulando," which we freely translate, "Let us settle things as we toddle along."

At the same time it cannot be denied that Sir William Osler's gift of direct and arresting speech has certainly focused popular attention, and shaken the complacency of many whom I believe you would consider to be "back numbers." In particular, the publicity given to his remarks has stimulated the fruition of a scheme, set on foot a year or two ago, for the organization and erection in London of a paying hospital—as a business proposition, it is true, but also designed to fulfill a very definite purpose of imperial interest. The countess of Scarborough, who is taking a keen interest in this scheme, recently addressed to the principal papers a forcible letter, from which I venture to make such extract as will perhaps serve to explain the position of affairs at the present moment. Lady Scarborough wrote in these terms:

"In his presidential address to the British Hospitals Association at Oxford last week Sir William Osler contrasted the methods of Canadian and American hospitals with those of British hospitals, and drew attention to the fact that, while in the latter everything was done for the poor, nothing whatever was done for people of average means.

"This want in our hospital system is being increasingly felt, and has for some time been fully realized by members of the medical profession.

"A very large class of persons in this country and visitors from our oversea dominions, if they cannot be treated medically or surgically in their own homes, are forced to have recourse to private nursing homes, which, as Sir William Osler points out, are only too frequently ill adapted for the purpose, and can in no case afford the same benefits as are provided in an up-to-date hospital.

"I think it will be of public interest to state that an effort is now being made to remedy this state of things.

"The 'Empire Hospital for Paying Patients' is in course of erection in Vincent Square, S.W.—a sunny open space, specially chosen on account of its freedom from the noise and dust of passing traffic—and will be opened this autumn.

"There patients will find the last word in hospital construction and equipment, where they can be attended by their own doctor or by any specialist, and can have a large or small room, or a suite, according to their means.

While a movement of this kind must be conducted on strictly business lines, it does not aim at large profits, the main object being to provide at a very reasonable cost everything that is found to be conducive to the successful treatment and comfort of the sick.

"Should this pioneer effort prove the success that is anticipated, it is intended to establish similar institutions in the populous centers throughout the country."

To this statement of aims there is little or nothing to be added, but I hope to be able, in the course of a few weeks, to furnish some details pertaining to the construction and administration of the new institution. I have not the least doubt that when the hospital is in working order no American cousins of ours will fail to obtain the greatest consideration should they desire, in time of sickness, to avail themselves of its privileges.

F. G. Crookshank, M. D.
Physician to the North-West London and Hempstead General Hospital.

BERLIN LETTER.

First of a Series of Letters Descriptive of Special Features of the Hospitals of Germany.

Berlin, August 1, 1913.

For most cities the hospitals are a mere incident, a sort of necessary evil attendant on municipal growth, like the moving picture show and the taxicab. One may travel through the cities of Spain without being aware that such a thing as a hospital exists, or, if a hospital is found, we are probably told that, like the lace of Valencia or the leather of Cordova, it was made in France. In Italy also, or even in France, while good hospitals exist, they are not thrust upon you; they are usually modestly secreted beneath the shade of some great cathedral, and bear somewhat the same relation to the church as does the gentle violet to the massive oak. But in Berlin all this is different. Berlin is only a *vorstadt* for a great group of hospitals. They are the main thing; the city itself is only secondary. The American tourist spends a winter in Rome and three days in Berlin. The American doctor spends a winter in Berlin, and, if you ask him about Rome, he will tell you it's a village somewhere in New York state.

Berlin is now one of the great cities of the world, and, with its immediate suburbs, it holds over 3,500,000 people. Every year 1,500,000 strangers visit Berlin. The city has an estate of 330,000,000 marks and spends 37,000,000 marks a year on its schools—more than twice as much as does the whole country of Spain. But, to repeat, these are mere details and simply serve as a fitting background to the city's hospitals, which are so great, and beautiful, and adequate that, if I described the newest, I would have to go around the whole world and back to Berlin before I could find its equal. Only here in Berlin, of all the cities and all the hospitals in the world, could I find such another. This statement may perhaps offer a chance for argument, but I speak in the broadest sense. There are other hospitals that house more patients, and there are other tiny jewels of hospitals. There is the great central hospital group at Vienna, but it is as yet unfinished. Therefore, taking the hospital in its broadest sense—including with the beauty and generosity of the architecture the equipment, the organization, the quality of the men who treat the sick, and the opportunity for advancement

of scientific research—I repeat that here in Berlin we have not only one, but two, of the greatest of the world's hospitals.

Each one of the features detailed above must serve for a separate article in making a critical study of these German institutions. In this letter I must limit myself to the briefest physical description of some of Berlin's larger hospitals. An idea of their beauty and extent can best be conveyed by the pictures that accompany this article, but no picture can give an idea of the soft, cool green of the trees, and turf, and shrubs, of the luxuriant masses of flowers, of the fresh odor of the country and of spring, that one encounters on passing through the gates of one of these hospitals. All the hospital grounds are beautiful parks.

As we must begin somewhere, let us start with the Charité, which is at the same time both the oldest and newest hospital in Berlin. Only one of the little old plaster-covered buildings that comprised the original group now remains. In this place, which I find that I described only a few years ago as "an ununiform village, . . . with buildings so old that you fear lest your feet go through the planking as you walk the wards," now is a city beautiful within a beautiful city. Artistic gables, spires, and bits of slate-covered roof rise above the trees from red brick walls set with ornamental windows. Gray stone balconies hold the beds of convalescent patients, taking the fresh air in the shade of gayly striped awnings, while below on the green turf are the wicker cribs of the well-nourished infants of the *kinder klinik*,, guarded by the well-starched nurses (I refer to the uniforms), who may give you a friendly smile as you pass by.

But I am wasting time in description when space demands that I should merely catalogue. To be statistical, then, we find that this hospital, which celebrated its two-hundredth birthday in May, 1910, is made up of a group of twenty-two new buildings and one old building. It has beds for 1,247 patients. Its medical clinics are in charge of Geh. Professor William His and Geh. Professor Friedrich Kraus, and has the following staff: Geh. Professor Hildebrand, chief of the surgical clinic; Geh. Professor Franz, chief of gynecology; Geh. Professor Czerney, chief of pediatrics; Geh. Professor Bonhoeffer, chief of neuro-psychiatric clinic. Geh. Professor Orth, the successor of Rudolph Virchow, is in charge of the department of pathology, or rather one should say the Pathological Institute. This institute comprises two large buildings, in one of which is the pathologic museum, where mementos of Virchow and many specimens labeled in his own handwriting are to be seen. The dimensions of this institute alone can be better understood by the statement that Orth has three great amphitheaters in which to do his teaching—one for demonstrations, one for autopsies, and one for mere lectures. There are two epidiascopes, and a remarkably effective arrangement of light to prevent direct reflection on demonstrated material. But here again I am getting away from my catalogue. I can only say that every department is equipped as adequately as human ingenuity can suggest and money procure for the care of the sick, for the teaching of medicine, and for the advancement of medical research.

Briefly, we might mention some of the other hospitals of Berlin. First, there is the Rudolph Virchow Krankenhaus, which has sixty-seven buildings and beds for 2,000 patients. To this I will devote an entire letter later on. Then there is the Krankenhaus Moabit, which was hastily erected in 1872 to meet the demands of the smallpox epidemic which followed the Franco-Prussian war. This hospital is built on the pavilion plan, and can accommodate 1,000 patients. Here are found men like Klemperer in medicine and Sonnenberg in surgery.

Out in the northeastern part of the city is the Krankenhaus am Friedrichshain, which also has a capacity of about 1,000 beds. This hospital is also made up, for the most part, of small pavilions, the floors of which are flush with the ground, so that such patients as are able may step or be wheeled out directly under the great trees. Professor Dr. Braun is chief surgeon here. The hospital is, however, best known to Americans from the fact that the chief of the pathological department is Professor Dr. Ludwig Pick, and no medical man ever comes to Berlin without taking a course with Pick, and does not go away without taking with him a permanent memory of one of the most enthusiastic, active, and effective teachers of medical science in all Europe.

Then there is the Urban Krankenhaus, with about 700 beds, situated in the south of Berlin. Here are Professor Dr. H. Fraenkel, in internal medicine, and Geh. Professor Koerte, chief of the surgical department.

We must include also among our city hospitals the new Charlottenberger Krankenhaus, completed in 1903, having 1,000 beds, and costing over 6,000,000 marks. This hospital can, however, easily serve for another special article. The Kaiser und Kaiserin Friedrich Kinder Krankenhaus is also a municipal institution. Geh. Professor Baginsky is chief of this hospital, and it was due to his efforts, aided by Virchow, that this hospital was founded in 1890 for children up to fourteen years of age.

So far, with the exception of the Charité, which is a state hospital as well as a city hospital, I have mentioned only the municipal hospitals of Berlin—merely the city hospitals, that compare with our one city hospital in St. Louis, for example. True, people may pay—and some do pay, while others do not pay—in these institutions, so that the comparison is not strictly correct, but that is a matter for later discussion. For a subsequent letter there must be left descriptions of the numerous university kliniks, although they are presided over by such men as Bier in surgery, Bumm in gynecology and obstetrics, etc., and so on. Then, finally, comes the whole flock of smaller hospitals, for a description of which there is no space in this letter. We are back at Karlsplatz, near the entrance to the great Charité, and above us towers the shocking *denkmal* to the memory of Rudolph Virchow. That in itself is an indication of the secondary importance of the city and the predominance of medical power in Berlin, for I am sure if the medical profession had not completely overawed the rest of the people of Berlin, they would never have tolerated that monument.

R. L. Thompson, M. D.
Professor of Pathology, St. Louis University School of Medicine.

Recently there died in England a Colonel Sir Charles Stoddard, a wealthy iron manufacturer. In his will $40,000 were left for one of two purposes, the choice to be left to his executors. They might use the money for an almshouse, or—and this was the colonel's own choice—they might use it as a fund to rehabilitate patients recently in hospitals.

This is the dead Past bowing to the Present. It seems almost medieval to provide money to continue poverty when it would do so much more good if applied to a well-thought-out plan for the rehabilitation of those who are stranded by recent illness and misfortune, and many of them would, with a little help, become self-respecting, self-supporting members of society.

CURRENT HOSPITAL LITERATURE

Eleventh Annual Report of the Holsterhäusen Sanatorium at Werden for 1912. F. Kohler. Centralbl. f. allg. Gsndhtspflg., Bonn, 1913, hft. 5-6, 183-201.

The author gives carefully prepared statistics and interesting treatment of 615 tuberculous patients.

The Kitchen for the Sick Poor of Turin (La cucina per malati poveri di Torino). F. Abba. Riv. di ingegner. san. Torino, 1913, June, IX, 157-160.

A description, with cuts and plans, of the new diet kitchen for the sick poor of Turin. In 1912 special diets for 16,618 patients were prepared. The kitchen is closed during the hot months of July to October, inclusive.

Structure and Arrangement of Hospitals at the International Architecture Exposition in Leipzig (Bau und Einrichtung von Krankenhäusern auf der internationalen Baufach-Ausstellung in Leipzig. D. Spiller. Ztschr. f. Krankenanst., Leipz., 1913, IX, 438-443.

The first installment of a paper describing the exhibits illustrating hospital construction at the Architecture Exposition in Leipzig. The paper is written by an eminent architect in a popular style, with plans and illustrations.

Habitations for the Tuberculous. Vincent Hooper. Brit. Jour. Tuberc., Lond., 1913, July, VII, 177-184.

An article dealing with the main principles which should guide the arrangement, planning, and construction of habitations for the tuberculous—sanatoriums, sanatorium hospitals, and residential sanatorium schools. A few sketch plans are given.

The Hospital and Chapel of Saint Mary Roncevall at Charing Cross. James Galloway. Proc. Roy. Med. Soc., Hist. of Med., Lond., 1913, June, VI, 191-232.

An interesting illustrated paper on the history of the ancient conventual hospital of St. Mary Roncevall, founded in the time of Henry III. and existing until the dissolution of the religious houses by Henry VIII. Its founder was William Marshall, Earl of Pembroke, son of William Marshall, "rector regis at regni" during the minority of Henry III.

The "Kaiserjubilaumsspital" of the City of Vienna (Das Kaiserjubilaumsspital der Stadt Wien). D. Linsmayer. Wien. klin. Wchnschr., 1913, XXVI, 801-817.

An interesting and adequate description of the great public hospital of Vienna, begun in 1870, and richly endowed on the occasion of the Emperor's Jubilee. The hospital has very nearly 1,000 beds, and is divided into eight clinical services—surgery, two for internal medicine (one of which is especially for tuberculosis); skin diseases and syphilis; diseases of the eye; gynecology; diseases of the ear, nose, and throat; genito-urinary diseases; besides, all the necessary adjuncts to a modern hospital—x-ray institute, a pavilion for physico-therapy, laboratories, etc. The article is illustrated with plans of the hospital and of each pavilion.

"Festschrift" on the occasion of the 100th anniversary of the foundation of the City Hospital of Munich. J. von Bauer. Vol. XV of Annalen der städtischen allgemeinen Krankenhäuser zu München, Munich, 1913, Lehmann, 722 pp.

A magnificent centennial volume by the director, assisted by the staff of the City Hospital on the left bank of the Isar, which was founded in 1813. 348 pages are taken up with a history of the hospitals of Munich from the middle ages, but more especially from the founding of this, the first general city hospital, in 1813. Statistical tables occupy 84 pages, and the volume closes with a series of interesting medical and surgical papers by members of the staff.

Sound Financial Administration of the Public Hospitals (Sanierung der öffentlich Heilanstalten). E. Hofmokl. Wien. klin. Wchnschr., 1913, XXVI, 1122-1124.

A plea for the government to handle and distribute the funds for the public hospitals of Austria instead of, as at present, leaving the financial administration to the various provinces of the empire. It is estimated for 1913 that 24,014,000 days' treatment in public hospitals is required for the people of Austria, of which 9,540,000 days represent the treatment in asylums for insane and mentally defective and 544,000 in maternity hospitals. These figures are compared with 17,000,000 days' treatment afforded ten years ago.

A Hospital in the Making; a History of the National Hospital for the Paralyzed and Epileptic. B. Burford Rawlings. Albany Memorial, 1859-1901, Lond., 1913, Pitman & Sons, 286 pp., 8vo.

The author has produced an attractive volume for general reading, giving the history of a noble charity founded in 1860 by Miss Johanna Chandler with scanty funds contributed by her family and solicited by them from the public. The sympathy of the lord mayor led to a meeting in the Mansion House, which was the birthplace of the new hospital for the care of paralytics, epileptics, and other patients affected with nervous diseases. The original idea of founding a home for helpless paralytics only was wisely abandoned and a hospital for active treatment decided upon. Brown-Sequard, Hughlings-Jackson, Bastian, Gowers, Sieveking, Ferrier, Victor Horsley, Felix Semon are among the great names associated with the growth of the hospital.

The Upkeep of Hospitals. Keith D. Young. Hospital, Lond., 1913, July 12, LIV, 451-453.

In a paper at the Oxford conference the author calls attention to the excessive cost of maintaining a hospital due to faulty planning. Two vital points are: (1) that the length of corridors should be reduced to an absolute minimum, and (2) that the routes to all departments to which patients have to be directed should be as simple and obvious as possible. Attention is called to the St. Thomas Hospital, built on a long, narrow site, where the ward pavilions are placed on one side of and at right angles to a corridor 930 feet long, the area of which on the ground floor alone is over a third of an acre. If it had been possible to arrange wards on both sides, the length of the passage might have been reduced one-half. The cost of cleaning, periodical painting, and whitewashing of corridors and of warming them in winter is an important point to be considered in planning the building. Simplified routes lessen the cost of distributing food and handling patients. Other details of construction affecting the cost of upkeep are discussed—plumbing, heating, and the structure of floors and walls.

Specialism in the General Hospital. Sir William Osler. Bull. Johns Hopkins Hosp., Balt., 1913, June, XXIV, 167-171.

The address at the opening of the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital has been already several times reprinted. It is an example of Osler's attractive way of saying things, and is full of delicate humor. The three principal functions—care of the sick, rich or poor, medical education, and original research—are emphasized, and it is recommended that even the private wards be thrown open to students "that the clinical clerks and surgical dressers might see the vagaries of sick life in all classes of society." In the palmy days of Rome the physician was followed to the houses of the wealthy by his pupils, a practice we could emulate in our private wards—limiting, of course, the numbers and selecting the cases. The address concludes with an appeal for harmony in the hospital units. "Isolation means organic inadequacy; each must be in sympathy and in union with the other and all for the benefit of the community; all toward what Bacon calls the lawful goal of the sciences —that human life be endowed with new discoveries and power."

Tuberculosis and the General Hospitals. Sir Thomas Oliver. Hospital, Lond., 1913, July 5, LIV, 413-415.

This paper, contributed to the fourth annual conference of the British Hospitals Association, which met at Oxford in June, discusses the question, "Ought tuberculous patients to be admitted to a general hospital?" the answer being both "No" and "Yes." They cannot always be kept out. Acute miliary tuberculosis attended with high fever and with difficulty differentiated from typhoid fever; pleurisies with effusion, of which many are tuberculous and others become so afterward; peritoneal effusions, which are generally tuberculous in young persons; infections of the urogenital tract in men and women; ulcerations of the intestine and enlarged glands in the abdomen —all these are types of cases in which the diagnosis is difficult and which must of necessity be admitted. The danger to others is negligible. Patients seized with sudden attacks of hemoptysis, with much shock and accompanied with great loss of blood, must be admitted from the humane point of view even when the diagnosis is clear. Tuberculosis is too subtle a malady, and its influences and ramifications are too widely spread, to bring it under the unqualified ban of prohibited admission to a general infirmary.

Open forms of tuberculosis, in which there is no difficulty of diagnosis, as advanced pulmonary phthisis and suppurating glands, present a different problem. The author does not know of instances in surgical wards of patients with suppurating glands having conveyed the disease to others, but it is not desirable that patients in advanced phthisis be admitted to the wards of a general hospital. This is as much from the point of view that the crowded ward is not the best place for the sufferer. Possibilities of infection cannot be ignored, as opportunities are numerous, and the other patients in the ward are in bad health and presumably more liable to infection than sound people.

During an experience of thirty-four years as a hospital physician, Sir Thomas can recall only two cases of possible tuberculous infection of one patient by another, but it may take months for a tuberculous infection to reveal itself, and we can seldom follow the after-history of patients leaving the hospital. The exclusion of all cases of tuberculosis, even if possible, would be a serious loss to the education of medical students.

The British Hospital System. Its efficiency and need for development. Sir William Osler. Hospital, Lond., 1913, July 5, LIV, 411-413.

In his presidential address at the Oxford conference, Osler speaks more particularly of the small county hospitals of England, which are usually well equipped, clean, and up to date in everything affecting the care of the patients. He emphasizes four points considered necessary for the proper development of the system:

(1) The voluntary system should be given up as antiquated and out of date, and the principle of taking pay from all classes of patients adopted. Under the national insurance laws pay must be taken from the insured, and there is no reason for not accepting it from all who can afford it. Everything is being done for the poor, but the "poor-rich" go to private nursing homes, none of which can take care of a patient as well as a well-equipped general hospital. A private pavilion for those able to pay well should be added to each general hospital.

(2) Admirable as are the county hospitals in regard to the care of the patients and the general arrangements, they are shockingly behind the times in laboratory facilities. Provision should be made at the earliest possible date for a good chemical, bacteriological, and pathological laboratory for each general hospital, and no county hospital should have to send to the research laboratories of London to have the diagnosis made as to whether a case is one of carcinoma.

(3) Instead of several local physicians, busy practitioners, doing the work of the small hospital, a single physician devoting his whole time to the work should be in charge of hospitals of fifty or sixty beds, and be paid a fixed stipend, so that he can devote a large part of his time to the care of his patients and medical investigation. In larger hospitals one pure physician might well have charge of the medical work instead of, as at present, three or four men in general practice.

(4) The county hospitals should be used for purposes of instruction for local medical men and students away from the universities on vacation. Once a year, or possibly twice, a post-graduate week might be arranged for, the teaching to be conducted by the hospital staff and invited specialists from throughout the country. This scheme is now before a British committee dealing with the question of post-graduate instruction, and may be presented shortly to the county hospitals.

The State Colony at Gardner, Mass., last year produced with handicapped labor 142,526 quarts of milk, worth $10,402.10; 2,202 dozen eggs, worth $704.64; a surplus of 178 head of stock, horses, cows, hogs, and sheep, besides nearly $40,000 worth of vegetables and fruit. In addition to all this, handicapped labor made and repaired all furniture, did all the painting there was to be done, made all the shoes, all the brooms, brushes, mats, pillows, window shades, all the clothing, did all the building and building repairs, made all the pickles and preserves—in fact, did all the work there was to be done about the farms. Dr. Charles T. La Boure, superintendent, is to be congratulated on a showing like this. And incidentally he seems to be showing the way to a solution of the great problem of what to do with deficients. He finds work that they can profitably do without having to meet the driving competition of skilled labor.

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Boston Work for Children.

The Boston Consumptives' Hospital is just completing a new children's pavilion of 60 beds. Dr. Simon F. Cox, superintendent, writes most enthusiastically of the plans for new work: "The scope of the work on the child is practically without limit. It is the policy of this hospital to care for the advanced, dying child, the child who has definite lung signs, the child who has glandular tuberculosis, and the child with bone tuberculosis. In our work, prevention is the main end sought, and, applied to the child, means the consideration and care of a large class who are not definitely tuberculous, but have lived under tuberculous surroundings and are offspring of tuberculous parents. The classification of all school children is being approached scientifically by the Department of Child Hygiene of the Board of Health. The care and treatment of the child who is not definitely tuberculous is the problem now under consideration. The care and treatment of the child, together with its education, form a big medical problem. We are planning out the daily life of the child to be a series of practical applications of hygiene, and would be pleased to hear of the experience of others."

NEWS *of the* HOSPITALS *and* SANATORIUMS

A nurses' home fully equipped and ready for occupancy has been presented to the Frederick (Pa.) City Hospital by Mrs. Georgiana Simmons, of that city.

Dr. Isaac Freemel has been appointed assistant superintendent of the Elgin State Hospital. Dr. Freemel has been physician at the Chicago State Hospital at Dunning.

The Evangelical churches in the United States are raising a fund to build a hospital in Tokio, Japan, to be conducted by their missionaries. The institution is to cost approximately $50,000.

Strenuous efforts are being made by the navy department to obtain recruits for the hospital corps. The men enlist for four years, and are detailed for training station service for special training before being sent to sea.

Miss Clara L. Davis has been appointed superintendent of the new Alice Hyde Memorial Hospital, of Malone, N. Y. Miss Davis was formerly superintendent of the Montreal General, the Cornwall General, and the Alexandria Hospital, of Montreal.

A bill to appropriate $100,000 for an institution for the care of "dope fiends" is under discussion in Wisconsin. Assemblyman Charles D. Rosa, of Beloit, is the introducer of the measure, which provides that the state shall build and support the institution.

Los Angeles is investigating its sanatoriums. Charges of various irregularities have been made, and the authorities are planning grand jury action. One arrest has been made, and a superintendent stands charged with forcible detention and cruel treatment.

The Pomona Valley Hospital, Pomona, Cal., has adopted a novel method of raising $50,000 with which to purchase its equipment. It is proposed to sell certificates for cash to churches, various societies, and individuals, the certificates to represent hospital service that may be used at any time.

The parish jail in New Orleans had recently thirteen insane persons "awaiting transportation" to the asylums. The authorities announced that an effort would be made to conclude some local temporary arrangement to relieve the crowded condition of the jail "for humane and sanitary reasons."

The plans of the trustees of the Washington University group of hospitals in St. Louis include a proposal to give hospital care to "self-respecting people of moderate means" for a "nominal" charge. The institutions have an endowment that will yield about $200,000 per annum, and deficits will be met out of this fund.

The business organization which is handling the Friedman tuberculosis turtle serum seems to be having a hard time establishing hospitals to treat patients. After being turned down by many institutions in several parts of the country, they decided to open their own hospitals. Colfax, Iowa, and Saranac Lake, N. Y., have refused to allow such hospitals to be opened.

Dr. H. A. Norden, who has been one of the leading physicians and citizens of Sturgeon Bay, Wis., for the past sixteen years, has been elected superintendent of the Chicago-Winfield Tuberculosis Sanatorium. Mrs. Norden will be matron of the institution. Winfield is just completing a $75,000 administration building and private pavilion, and will be able to accommodate about 150 incipient cases.

Stuart Circle Hospital, of Richmond, Va., was opened to the public last month. It is a private institution, intended solely for the care of the patients of seven physicians engaged in different specialties—two surgeons, two internists, one obstetrician, one eye specialist, and one ear, nose, and throat specialist. The hospital is six stories high, with operating rooms and kitchen on the top floor. There are rooms and small wards.

Minneapolis is discussing the provisions of a recently enacted law whose object was to place everybody employed by the city under civil service, including staff physicians of the municipal hospitals. The doctors are fighting their end of the proposition. They are relying on the point that they are not on salary, and hence are exempt from civil service. Legal opinion is now pending. St. Louis also has a row on about the method of choosing a city hospital staff.

Detroit is discussing the proposal to purchase Fort Wayne army post, just outside the city, and convert it into a municipal hospital and park. It is stated that the United States government intends to abandon the post and sell the property. The city now has $200,000, recently appropriated for hospital purposes, which might be applied toward the purchase of the army post. It is said the buildings will lend themselves to the new use with very inexpensive alterations.

Kansas' new State Hospital for the Insane, at Larned, is to take the form of several groups of farm colonies, to house different classes of patients. The first group, which is now under construction, will be the administrative group, the inmates of which are expected to help with the administrative work; the second group will be the farmers' group of cottages; the third, the industrial group; and the fourth is intended to house those who will require hospital care and will not be able to take any part in the colony activities.

Siam is a long way off, and one may well imagine that the work of administering a hospital so far out of the beaten track must tax all the resources of the most versatile superintendent. Dr. and Mrs. Paul Van Metre, of Atkins, Iowa, have just sailed from San Francisco, the former having accepted an appointment as superintendent of the Svart Memorial Hospital at Nakawn Sri Tamarat, a city on the extreme southern coast of Siam. The hospital is maintained by the Presbyterian Board of Foreign Missions and has 40 beds.

Following close on the heels of a national disturbance over the new insurance and employers' liability law, England now has a new agitation in favor of a national health department, with a seat in the cabinet of ministers. Strangely enough, the insurance companies are behind the plan, and their contention is that even now the public health is in the keeping of the already existing state insurance office, and that it only needs to clothe that body with the dignity and the recognition of a cabinet place to make the new order of things complete.

Detroit and Cleveland seem to be two cities whose hospitals are overcrowded to the point of actual distress. In Cleveland all the hospitals are urging relief from the overburden of free patients by the building of a municipal hospital, while in Detroit the situation seems sufficiently summed up in the headlines in a recent issue of one of the daily papers: "Hospital conditions get worse in Detroit, but nothing is done. Contagious diseases spread through wards. Demented, alcoholic and other dangerous patients must be kept with convalescents."

Abraham Slimmer, the aged Jewish philanthropist, of Dubuque, Iowa, is one of those few wealthy men who do good with their money for the pure love of their fellow man. Notoriety is extremely distasteful to him, and he has been known to give large sums on the one condition that his benefaction should not be known. The greatest joy of his life is to slip in on an institution that he has created and go about visiting the sick and poor. If he can steal in without being recognized, he is doubly happy. But woe to the institution that has not kept faith with him concerning the conditions under which his money was given!

The hospital of the Colorado Fuel and Iron Company at Pueblo has some novel things. Instead of the ordinary numbers on the room doors, the designation carries something of a description of the furnishings of the apartment, as, for instance, the Music room, the Japanese room, the Chinese room, the Spanish Mission room, and so on over a wide range of names. Dr. Walter Morritt, superintendent, is now planning to remodel his kitchen and cook entirely by electricity. The hospital is served with electricity from the company's general power plant, and it is believed that electricity under the circumstances will cost little, if any, more than coal; at any rate, the dirt and heat will no longer be present.

The Hospital Section Transactions.

The secretary of the American Medical Association announces that, if a sufficient number of copies are ordered, he will be glad to have the transactions of the Hospital Section at the recent Minneapolis meeting of the Association put up in bound volume form. A hospital number of the *Journal of the American Medical Association* will be issued early in October, and will contain all the papers read at Minneapolis, with illustrations and discussions. A few of the papers are too long for publication in the *Journal* and will have to be cut, and some illustrations will have to be omitted; but the transactions, if published in bound form, will contain everything. One hundred copies of the transactions will have to be ordered to justify their publication. Those who wish the transactions at $1.00 a copy will order direct from E. C. Shelley, American Medical Association, 535 Dearborn street, Chicago.

NOTES *on* NURSING

Dr. Osler Talks to Nurses.

The following is an abstract of an address delivered by Sir William Osler to the graduating class of 1913 of the Johns Hopkins Training School, taken from the *Alumnae Magazine:*

"Now, what shall I say to you graduates? Words of advice? Too late. As nurses, your characters have been forming in the past three years. You may modify them slightly; you never can change them essentially, and there is no reason why you should. Words of warning? They are unnecessary too. I expect you have had a good many serious words of warning. They come so easily and they cost so little, and they do so little good. And, anyway, this is not the occasion for words of warning. Words of congratulation and encouragement are much more appropriate—congratulation because you have passed a long period of training, and encouragement because the outlook was never more favorable than at present for women in your profession.

"There are four main lines open to you. There is institutional work, which has its attractions to many of you, though it has its disadvantages. Institutional life is very apt to get a person into a groove, which gets deeper and deeper until he cannot see over the edge of it. However, it is a life of extraordinary interest and will attract very many of you, very many of the best of you. The life of a private nurse has many more attractions. It is much more varied, much more trying, but it gives a person who is interested in life and interested in men and women the advantage of an experience that is obtained by no other class of people. No other people in the world see men and women as the private nurse does. She sees them, as I once said before, in mufti, with all of their mental and moral, and many of their bodily, clothes taken off. For a student of human nature there is no other such profession, and many of you will know a great deal more in a few years than you do now.

"The work of the district nurse I hope will attract many of the best of you. I often think if I were not a doctor in the easy berth of the Regius Professor of Medicine in the ancient University of Oxford, I would like to be a district nurse. I do not believe there is an occupation in the world in which a person has as many opportunities of doing as much good to their fellow creatures, and I do hope that many of you will take up this work, which is now so much encouraged and is under such favorable aspects in connection with the social service work. But, apart from this social service work, the growth of which is so encouraging, the tuberculosis work and the ordinary district work should appeal to very many of the best. I should like very much to see what is known in the old country as district nursing work extend very largely throughout the country districts here.

"So the choice for each one is a wide one, and, whichever field you pick, the opportunities are great for the exercise of your talents and for the development of your virtues. Of these there are seven—the mystic seven—your lamps to lighten your work, and they are tact, tidiness, taciturnity, sympathy, gentleness, cheerfulness, all linked together by charity. And now for a brief resume of these seven virtues and their exercise.

"Tact is the saving virtue without which no woman can be a success in any way, as a nurse or not. She may have all the others, but without tact she is a failure. With most women it is an instinct, her protective mechanism in life. It enables her always to do the right thing at the right moment. It is one of the greatest of human blessings that so many women are so full of tact. The calamity happens when a woman who has all the other riches of life just lacks that one thing. I remember one such woman in a hospital with which I was connected, who had the greatest difficulty with the Board of Trustees to obtain a revolution in the matter of training. They were antique, they were obstinate and self-opinionated, and they regarded their hospital as ideal, which it was not. We had appointed a woman who, to all intents and purposes, had all the necessary qualifications for the place. She was well trained, she had a splendid presence, and she had a good record in her school, but in six months she had all the trustees by the ears, she had all the doctors against her and all her head nurses up in arms. All due to a congenital deficiency in tact. She simply could not do any one thing right at the right time.

"Now, as to tidiness it is not necessary to speak to the modern nurse. Neatness is the very essence of her work. It is the prime duty of a woman of this terrestrial world to look well. Neatness is the asepsis of clothes, not the carelessly tied shoestring or the dorsal infirmity of a waist and skirt too illy joined.

"The third virtue is taciturnity. There is an evil significance connected with the word, and rightly, because there are two forms of it. I took a position for a few weeks at a hospital in the Province of Ontario a week after I graduated. There I met, for the first and only time, the incarnation of the spirit of taciturnity. It was in one of the ward nurses. She was taciturn to such a degree that she never in the six weeks I was in that hospital smiled at me. This is the only real instance of taciturnity with which I have ever come in contact. Indeed, she was never known to smile at a patient, or at anybody. This is a type of taciturnity that I need not speak of. But there is also what Sir Thomas Browne calls 'the gift of taciturnity,' as he wisely says: 'Think not silence the wisdom of fools, but the honor of wise men, who have not the infirmity, but the gift, of taciturnity.' It is this gift of taciturnity I should like you all to cultivate. It is so much needed. There are no people in the community who need to cultivate this gift of taciturnity more than our trained nurses. Think of the opportunities they have and how they are tempted by their patients, who talk to them, who gossip and who expect to be told by the nurse all sorts of things. And very many patients are so attractive, it is hard not to speak to them nicely concerning things you should never open your lips to them about. Never under any circumstances tell moving stories of cases, never for a moment divulge what has passed within the house of another patient, utter no word about your past record as a nurse in connection with cases—nothing on any of these subjects should ever pass your lips. I speak rather frankly on this point, because I know it is needed. I know it is sometimes a necessity that one should speak strongly and firmly to members of the nursing profession on this point, for patients are very often greedy of the very sort of news that nurses are sometimes apt to give them. As I said here once before, if you have heard anything, let it die with you.

"Now, of the fourth nursely virtue, sympathy, you must have that in full measure, but it must be poured out on your patients with a good deal of discretion. Learn to withhold it. There are many cases that seek sympathy just as a drunkard seeks his dram and as the morphia eater looks for his morphia. There are patients who eat the hearts out of nurses by asking for too much sympathy and by getting it when they do not deserve it.

"Gentleness is your birthright as a nurse. It is expressed by words, by hand, or in motion.

"Cheerfulness is to preach happiness by example, and this is one of the chief functions of all cultivated women. In a nurse it is an essential virtue. It is expressed in the face and in the way in which you go about your work. There is no such blessing in the world as cheerfulness. It is not always easy to obtain. You cannot always have a bright face amid sad surroundings, and particularly the sad surroundings in which you will often be placed. But your face must not show what you feel. Look for the brightest and you will see the brightest, or, as Ruskin well says, 'Look for the shadows and you will see them.' There is so much sorrow and so much suffering that only the bright and cheerful fulfill the law of bearing the burden of others.

"Of the last and of the greatest of the nursely virtues, charity, I need scarcely speak. Gently to scan your

brother man, still more gently your sister woman, to judge no one harshly, to live as closely as possible to the counsels of the sermon on the mount, may enable you to live in the true spirit of nursing. These riches shall not fade away in life, nor any death decrease."

The California Eight-Hour Law.

Everything is not smooth regarding the recently enacted California law limiting pupil nurses to an eight-hour day. No one seems to have any particular objection to the short day; but the women at the head of the training schools on the coast are not sure they want specific hours fixed and enforced by the State Bureau of Labor, as provided in the law. One of these women, writing recently to her alumnæ association in the East, said:

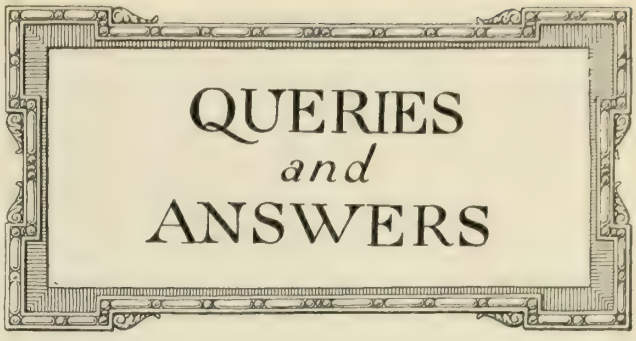
"I am in Sacramento to endeavor to get registration for California and to defeat a law placing our schools in the hands of the Bureau of Labor in the matter of hours of duty. At first they wanted to include all females employed in hospitals—superintendents, assistants, etc.—in an eight-hour day and one day in seven rest, which makes a forty-eight-hour week. Rather than run the risk of losing the entire bill, they amended to include only pupils. Even so, we do not feel our schools should be controlled in the important matter of the arrangement of hours by the Bureau of Labor and subject to the inspection of their deputies with the methods they employ. While I strongly advocate an eight-hour day system which is elastic and accommodates itself to emergencies, I most strongly oppose an eight-hour *law* which is *fixed* and does not accommodate itself to emergencies. This is a most serious matter and must be taken up by our organization at once. California is being tried out and if it passes here, then it will be pushed into every other state. It has its origin with the Consumers' League. Get to work and let us know what you think."

Miss Lydia H. Keller, R. N., superintendent of Cobb Hospital, St. Paul, has been appointed by Governor Eberhart a member of the Board of Examiners of Nurses. A definite campaign was waged in Minnesota over this appointment, and the inference goes with it that Governor Eberhart has sided with the small hospitals. It seems the old board was in favor of discontinuing the training schools in small hospitals, or compelling them to arrange for affiliation with larger institutions in nurse training. Miss Keller has been at the head of Cobb Hospital for several years.

Philippine women who are graduates of the Manila General Hospital are being appointed to visiting nurse positions and sent to the outlying provinces as rapidly as they can be prepared for the work. Their duties will include inspection of the homes and living conditions of the people, and especially inspection of infant care. They are to instruct mothers in the care of their children, clothing, housing, feeding, and cleanliness. They are also to look after the general hygiene and sanitation of their respective communities.

The Massachusetts General Hospital and the Illinois Training School for Nurses (Cook County Hospital) have opened their doors to graduates of the Philippine General Hospital in their post-graduate departments. The training in the Manila hospital is four years for those who intend to enter institutional work and two and one-half years for those who intend to do private nursing. It is said by American physicians who work with them that the Philippine women make excellent nurses.

The California Legislature passed the bill for an eight-hour day for pupil nurses, and it has become a law through the signature of the governor. Opposition to the proposition seems to have increased since its final enactment into a law, but it will undoubtedly be given a fair trial.



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Sterile Gauze and Cotton.

To the Editor of THE MODERN HOSPITAL:

Are "hospital" gauze and cotton sterile, as we buy them? R. M.

They are not sterile unless so labeled, and then they must come hermetically sealed from a house that is above suspicion. Obstetric packages come in that way, for home use.

Vegetable Peelers.

To the Editor of THE MODERN HOSPITAL:

Are vegetable peelers practical, and do they save time and money? S. W.

Some are wholly worthless, especially those that have metal graters. The upkeep of these is prohibitive. The carborundum graters last a long time. Careful hand peeling saves more of the vegetable than any machine, but, where wages must be paid to workers, the machine is probably cheaper. It is said there are peelers now that remove the eyes and clean out the stems. We have not seen them, and doubt the claim. It is doubtful whether peelers save more in weight than hand work, but they are far quicker. Peeling raw vegetables, either by hand or machine, robs them of the best of their food value, which lies just under the skin. No doubt large hospitals that use expensive help will do better with the machine, but we doubt very much whether small hospitals will find machines either cheaper or better.

Cubic Foot Cost.

To the Editor of THE MODERN HOSPITAL:

When an architect tells you that your hospital will cost 25 cents per cubic foot, does he mean the finished building, ready for patients? H. T. B.

You must ask him in every case "just what 25 cents means," because costs vary all the way from 22 cents to 45 cents, depending on many things. In a hospital the plumbing is a great consideration. If your piping is well arranged—that is, if your risers are all close to the fixtures—a great saving can be made, but this good arrangement goes all the way into the division of space, and often the nursing part of the administration will insist on carrying pipes across corridors and into far distant places for their convenience. This costs money—perhaps it is often economy in the long run. Then, the ornamentation is a great item, and a few gargoyles and carvings, or a little marble in the front hall, will run the cubic foot cost away up. Ornamentation and excess plumbing are usually not figured in the flat cost of a hospital.

Ventilation.

To the Editor of THE MODERN HOSPITAL:

What is the "plenum" system of ventilation, and is it efficient for hospital purposes? P. W. N.

The name "plenum" is taken from the Latin word meaning "full" or complete. It means a system that introduces pure air into a room and takes away the foul air; that is, the system provides a full or complete circuit of air movement. It is not efficient except at a cost for installation and operation that is prohibitive in a hospital. As installed in hospitals in the large cities, more dirt is "introduced" than pure air, because the air is sucked in under vacuum pressure, pulling the dirt and soot in with it. If there are windows enough, properly arranged for the protection of patients against drafts, plenty of the best air there is on the outside will find its way in; then if we have the so-called "exhaust" system, with outlets in the room, leading to a "pull" fan at the roof, we will have the most efficient practical system there is at the present time. This fan "pull" system should be installed in the kitchens, serving rooms, utility rooms, and toilets.

Fumigation.

To the Editor of THE MODERN HOSPITAL:

Do you consider that the fumigation of a room that has contained erysipelas, by the so-called formaldehyd-permanganate gas method, efficient for the destruction of the microorganism; or is that method efficient for any of the communicable diseases? B. H. J.

It is not efficient. Anderson and Goldberg, in the laboratories of the Public Health and Marine Hospital Service at Washington, very conclusively disprove the efficiency of all the gas fumigants, and most hospital administrators have also had costly proof that gases turned loose in a room without pressure are practically useless. Reliance must be placed on thorough washing of walls, floors, ceilings, beds, and furniture with 5-percent phenol, and the soaking of blankets and linens for some hours in the same solution. Shades should be of washable or Holland cloth and also scrubbed with phenol. Rugs (if used), mattresses, and pillows must be subjected to the heat of a vacuum sterilizer at 250° F. for forty minutes. The so-called "rag" rugs are excellent because they lend themselves to this sterilizer treatment. A few badly informed medical men insist upon gas fumigation, and in some hospitals it is done as a mere concession to a worn-out belief.

Buying Bandages.

To the Editor of THE MODERN HOSPITAL:

Which is more economical, to buy cotton and roll the bandages, with the help of convalescent patients or with an electric winder, or to buy the bandages ready-made and rolled in the required widths and lengths? D. W. T.

Cotton or muslin bandages are made from cotton that has a value per pound as well as per yard. The large bandage makers buy in hundred thousand yard or pound lots. They can buy far cheaper than you, because you buy but a few pounds or yards. They roll by machinery.

There is a nice way to tell just how you are coming out financially in this matter. Buy, say, twenty yards of the grade of bandages you use in the shape of yard wide or two-yard wide cotton goods; weigh the piece carefully, then cut it into four five-yard pieces, tear your bandages and have them wound. Now go to market for rolled bandages; they will be offered to you by the pound. You know how much you paid for your twenty pounds of goods, and how much it cost you to cut, tear, and wind, and how many pounds there were. You can tell exactly which is the best way to do hereafter.

There is a little secret about bandage buying. Some of the hospital supply people, in making up specialties, have odd lengths and odd widths left over. They roll these pieces into odd bandages, some of them only two or three yards long and all sorts of widths. You can buy them for about 30 percent less than regular widths.

"Distilled" versus "Sterilized" Water.

To the Editor of THE MODERN HOSPITAL:

What is the difference between "distilled" and "sterilized" water for operating rooms? B. M. H.

This question is now undergoing analysis in some of the best laboratories, but its discussion is an academic one up to this time. Some pathologists take one side and some the other, and the same is true of the surgeons.

Distilled water contains no organic matter; if the distillation has been carefully done and if proper methods are applied, even the albuminoid gases (ammonia) are carried off and the water then becomes "ammonia free" and usable for chemical purposes in the laboratory. Some surgeons object to distilled water on the ground that it has been deprived of its mineral matter, especially salts, and that it will take salts from the tissues with which it comes in contact—as, for instance, in abdominal irrigation—and thus increase the distress of an already sorely tried patient. Distilled water contains no bacteria of any kind, since all microorganisms are left behind as the water goes over as steam or vapor—always provided the apparatus was entirely free from microorganisms when the process began. But distilled water is wholly without inherent resistance and is an inviting field for bacterial growth, if any are present anywhere along the course. So that, if distilled water is used, one must be sure of the sterility of the apparatus, because at no stage of distillation does the water rise to a temperature point sufficient to destroy even the mildly resistant microorganisms.

Sterile water, as we use it from water sterilizing apparatus in surgical rooms, has been made so by heat up to 250° F., or under a pressure of fifteen pounds. Usually the water has previously gone through some form of power plant filter, and most of the solid matter has been eliminated, but not all. But there is no living matter in sterilized water, and it has retained most of its normal salts, though some will have been precipitated by the heat, and become attached as scale to the inside of the boiler.

Most pathologists and surgeons would accept either "distilled" or "sterilized" water if they could be quite sure it had not been reinfected after undergoing the process—and, after all, that is the great problem. Some part of the faucets has been exposed to the air and to bacterial infection between the drawings; the containers are also hard to keep sterile, and, if the water is used for irrigation with the usual irrigator and tubes and funnel, it is impossible to assure sterility. The question for this reason becomes an administrative one, and contemplates a fine technic for getting the water out of the sterilizer or retort into the operative field in a sterile condition. This is the reason why most surgeons feel safer when the water sterilizing apparatus is located where they can see it and not at some central plant, with an intervening system of plumbing, which also may be infected.

Very frequent tests should be made to determine the sterility of water. The trouble here also is that some surgeons contend that water may show sterility under all the laboratory culture media, and yet may develop virulent organisms in that peculiarly inviting field, warm human tissue loaded with bacterial excitants.

Formula for Sterilizing Catgut.

To the Editor of THE MODERN HOSPITAL:

Will you kindly give the formula and technic for sterilizing catgut—a way that can be relied on? J. P. C.

There is no way of sterilizing catgut "at home" that is efficient. Gut may be rendered sterile in several ways—by heat, with alcohol, iodin, and the like—but, if any of these means are employed, the tensile strength, flexibility, and general virtue of gut for surgical purposes are so destroyed that it is wellnigh useless. Thoroughly trained scientific people are engaged in the business of preparing catgut, and even they will occasionally fail. There is no advantage, financial or surgical or administrative, in home-prepared gut, and every argument is in favor of its purchase from a concern that does nothing else, and whose stock in trade is the confidence of the surgeons of the country. It is deemed inexpedient to give a process or a technic for "home"-prepared gut, because the practice is dangerous, except under conditions that do not obtain in busy hospitals.

Hospital Floors.

To the Editor of THE MODERN HOSPITAL:

Is there any "best" hospital floor? We are in the fascinating work of "sketching" for a new building, and cannot decide on floors—there seem to be so many opinions. D. W. G.

The New York Post-Graduate Hospital, recently completed by McKim, Mead & White, has "plastic linoleum" in most places—that is, a material like linoleum, but laid, rolled, and hardened in place. It is too new to judge as to its acceptability. The new Children's Hospital of the Michael Reese in Chicago has quarter-inch thick, six-foot widths, solid amber color, battleship linoleum throughout. The cove bases are run out on the floors for six inches, nosed with a brass rim, and the linoleum is made to come snug flush with this rim. Experience has taught that it was necessary to cement the linoleum to the floor throughout instead of around the edges only. The new Cook County Hospital, now under construction, is designed to have a variety of floors as follows:

All corridors—12-inch hexagonal terrazzo.

All large wards—12-inch square cement blocks in large patterns.

Large administration entrance, stairs, etc.—Tennessee marble, very carefully selected for wearing evenly.

Interns' room and dining rooms—hard wood.

Utility and sink rooms—solid cement, smooth finish.

Toilets and baths—6-inch square white vitrified tile.

Stairs, stair landings, examination rooms, and admission suite—one of the composition floorings in solid color.

Many excellent judges like the cork floorings, especially in elevators, and for the first step outside elevators, for stair landings and treads, for inclines, for hall runners, and some good administrators use cork instead of linoleum.

There is no "best" floor, and the future will probably develop a well-settled tendency to select different floors for different purposes. Always remember that the stone floors, of whatever kind, make walking hard for the nurses, are "cold" in the wards and in living rooms, but rugs and carpets are inadmissible except in the quarters of well people, and that the linoleums are ideal for walking, but will be difficult to keep clean and aseptic unless very carefully laid and cared for.

An Aerial Ambulance.

There was tried out at Aldershot, England, recently an emergency ambulance in the shape of a biplane. Colonel J. F. Donegan, of the army medical corps, is the inventor, and the device to be carried by the air route includes a folding operating table and all the auxiliaries, anesthetics, instruments, and dressings. Even so thoroughly conservative a journal as the *Hospital* makes the announcement as merely a chronicle of the day.

Liability of Charity Hospitals.

It has been a pretty well settled principle of law for a number of years that charity hospitals—and this means that class of hospitals that are conducted as "no-profit" institutions—could not be held in damages for the neglect of a nurse or other "servant." The matter had not, however, been threshed out in the higher courts, and now the Supreme Court of Nebraska hands down a decision upholding this view of the law. A pay patient who was insane committed suicide. The fact that the patient was paying for his care made no difference to the supreme court, because the money applied not to private profit, but to the benevolent purposes of the institution.

New Isolation Hospital for St. Louis.

The new isolation hospital for the city of St. Louis will have a capacity of 500 beds, will be erected on the unit system, and is expected to cost in the neighborhood of $500,000. Guy L. Mariner is the architect and Dr. Cleveland H. Shutt, hospital commissioner, consultant.

There will be four L-shaped buildings, two stories high, arranged for sectional isolation. A separate quadrangular admitting building, containing sixteen isolation units, will be erected in the center of the group. Three of the main buildings will be used for scarlet fever, measles, and diphtheria, respectively. The fourth will be used for miscellaneous diseases. A playground for each building, with a small pavilion, to be located between the inner angles of the buildings, is being provided. The physicians and attendants for each building will be housed within its walls. The nurses will be accommodated in a small cottage in close proximity. Much glass will be used in the partitions. There will be several rooms, and none of the wards will accommodate more than twelve patients. These wards will be arranged with glass partitions, so that there will be practically no more than three patients in each ward. Each building will be provided with a service room, containing steam sterilizers for linens, garments, bedding, etc., a sterilizer for utensils, and an incinerator. All materials to leave the building will be placed in one or other of the sterilizers by attendants, and after due time a porter, being notified by a signal system, will come and remove the materials on an outside corridor after they are sterilized.

Units in the isolating building will be so arranged that an individual or family may be isolated completely. Telephones will be provided in each of these rooms, and a small room is also provided for the nurse. The general plans of the isolating building are the same as those carried out in the Philadelphia hospital for infectious diseases. Each unit will be completely surrounded by an outside corridor. Telephone and electric signal systems will be established throughout, and refrigeration will be piped to each building. The morgue will be arranged to provide for a small chapel, and preparation and fumigating room will be separated from it by an open corridor and the morgue room proper. It is intended to carry out a color scheme both in the buildings and their equipment for each of the more important diseases.

NEW INSTRUMENTS *and* APPLIANCES

Vincent Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

A Flexible Gastroscope.

As far back as 1879, after Professor Nitze had solved the problem of the examination of the bladder by means of the cystoscope, he gave his attention to the construction of an instrument for the examination of the stomach, or, as it is today called, a gastroscope. He had in mind an appliance which would have the advantages of the lens

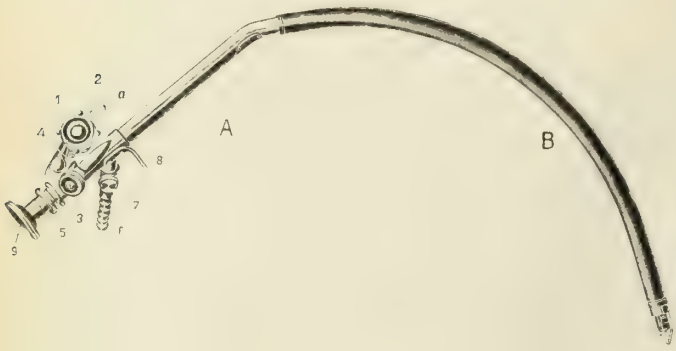

FIG. 1.

system as contained in a cystoscope, yet which could be introduced into the stomach in a rather flexible condition, afterward being rendered rigid through mechanical manipulation. The work which Professor Nitze did along this line was very extensive, covering a period of years, first in Dresden and later in Vienna, in conjunction with Leiter, the instrument maker. Apparently, however, the experiments were not satisfactory, in so far as a flexible instrument was concerned.

During the last three decades a number of others have, at different times, given their attention to the design of a practical gastroscope, among whom should be mentioned Mickuliz, Rosenheim, Kausch, Foramitti, Jackson, Kuttner, Kelling, and Elsner. As the result of the work of these men, a number of instruments were made—some experimental, others were completed—and have met with more or less success, but all of them that have been used to any extent in practical work are of the nonflexible type.

Some five years ago Dr. Martin Sussman, of Berlin, constructed a crude model of a flexible gastroscope, which seemed to fulfill the requirements in a theoretical way, but he experienced difficulty in having the optical system and mechanical parts made. As a result, his gastroscope was not completed until the work was taken up by Work, of Berlin, who, on account of his extensive experience in the manufacture of cystoscopes, was quick to appreciate the possibilities of a gastroscope of the kind Dr. Sussman had in mind. After four years of experimenting, and meeting with many disappointments, he finally succeeded in perfecting the instrument as shown in the illustrations.

Contrary to the impression one might first have from these illustrations, the instrument is extremely simple in manipulation. It is not difficult to appreciate that the workmanship must necessarily be of the highest order, yet at the same time the instrument has been so designed and manufactured that the operator does not need to concern himself as to its working parts, as all adjustments are made in the simplest possible way. The appliance consists primarily of two parts—the nonflexible part A and the flexible part B. The total length from eye-piece to the lens at the distal end is 74 cm., of which part A, nonflexible, is 24 cm. and part B 50 cm. The diameter is 12½ mm.

The nonflexible part A is set at an angle of 150 degrees to part B, and, in spite of this angle and the comparative great length of the instrument, a clear view can be had of the walls of the stomach when distended with air, due to the ingenious system of lenses which has been adopted. On part A is mounted the ocular (9), the turning device with indicator (3) for revolving the objective at the distal end of part B, lever (2) for placing the instrument in a flexible condition, tension wheel (1) for replacing the instrument in a rigid position, connection for compressed air tubing (6), with needle air control valve (7) and a hook or finger rest (8). Part B is covered with a pure gum tube. At the distal end of the instrument is located the objective. Mounted on each side of the objective is a small flat tungsten filament electric bulb, the objective and bulb being covered by a hood or protector which is made of glass and metal, preventing the entrance of moisture and of mucus, which might otherwise cause difficulty in the illuminating on account of short-circuiting of the current. This protector or hood also prevents any possible obstruction of the lens system in revolving, as all turning parts are thus inclosed and a complete circle is described by revolving the lens with its

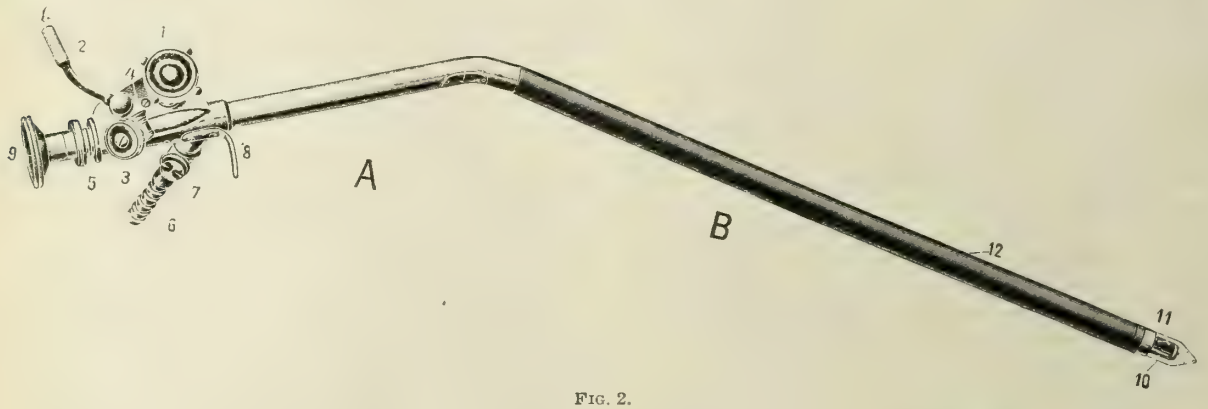

FIG. 2.

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something to tone up the stomach or to correct a little irregularity of the intestinal tract,

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REPRINTS.—200 reprints of original articles will be furnished gratis to authors making the request, which request must accompany the manuscript. Covers of these and extra reprints will be furnished at cost.

ILLUSTRATIONS.—Such half-tones and zinc etchings as in the judgment of the Editors are necessary to illustrate articles will be furnished when photographs, drawings, or ink tracings are supplied by the author.

NEWS MATTER.—Our readers are requested to send in items of news, and also marked copies of newspapers containing matters of interest to those engaged in hospital work. We shall be glad to know the name of the sender in every instance.

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two small illuminators. In earlier forms of gastroscopes this turning feature offered quite an objection in that the entire tube was turned, making the procedure a painful one to the patient in such cases.

Fig. 1 shows the gastroscope in a flexible position, and Fig. 2 in a rigid position, as set for the purpose of inspection. Fig. 3 shows the method of introduction. Change from rigid to flexible is easily accomplished by simply

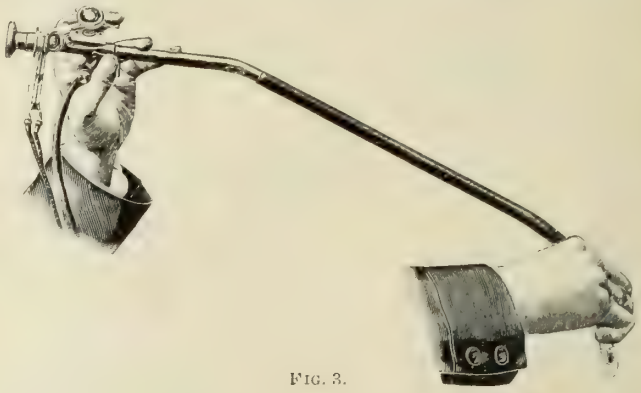

FIG. 3.

throwing back the lever (2) from position A to B and giving it a slight amount of pressure. To replace in a rigid condition, as for inspection, the lever (2) is thrown in position A and a quarter turn of the tension wheel (1) made in a clockwise direction.

The system of lenses employed deserves special mention from the fact that they are unusual in many respects. It is generally considered that, in passing the instrument, the shortest distance from objective to the posterior wall or entrance to the cardia is 2 mm. and that the average distance in a well-inflated stomach is 7 cm. from objective to the part under inspection. The lens system, however, is universal in so far as an object will present a sharp, clear view, whether within 2 mm. of the lens or at a distance of 10 cm. The eye-piece (9) may be adjusted so as

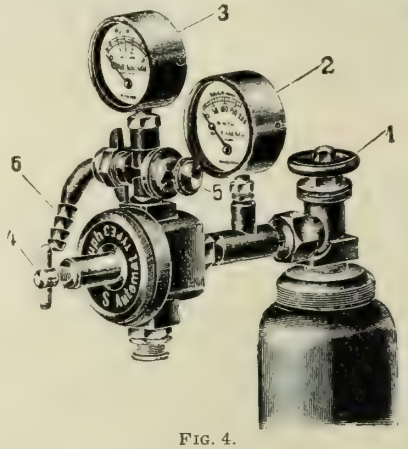

FIG. 4.

to accommodate itself to the lens system. The range of the field under observation at one time is sufficient, so that an area measuring 6 cm. across may be observed without any readjustment of the instrument. This makes it possible to observe the entire wall of the stomach, since the lens system can be turned so as to describe a complete circle and the instrument may be moved downward to any point. The only part remaining which cannot be conveniently examined is the small portion of the stomach lining directly under the distal end of the gastroscope.

The inventor claims that his instrument can be intro-

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duced without difficulty in every case where it is possible to introduce a stomach tube; that the introduction is easier than with a straight nonflexible instrument, and that it can be accomplished with comparative comfort to the patient (if one can speak of comfort at all in gastroscopy).

As an anesthetic, a 10-percent cocain solution is recommended. The patient is placed in a recumbent position on his right side, drawn up with a pillow under the head.

Fig. 4 illustrates an apparatus for the purpose of inflating the stomach with compressed air during the operation, but a foot bellows in connection with a manometer can also be employed for this purpose.

The Sussman gastroscope has been pronounced by specialists who have had considerable experience in gastroscopy as one of the greatest aids yet devised for the purpose of diagnosis of diseases of the stomach, and it seems that the instrument deserves the closest investigation by stomach specialists and internists.

Fluoroscopy Again Coming to the Front.

With the discovery of the x-ray, back in the early part of 1896, the fluoroscope offered the best means of diagnosis, and, owing to the remarkable properties of the x-ray, the early workers used the fluoroscope for hours at a time, because everyone in the scientific world was absolutely ignorant of the harmful effects which were due to prolonged exposure. This was, of course, before science had discovered that the x-ray had therapeutic properties. The ultimate result was that any number of pioneer x-ray workers received injurious effects from the x-ray, and a number of fatalities were reported. This astonishing news had a tendency to set back the art of fluoroscopy to a considerable extent, and it has been only within the last few years that the diagnostician as well as the surgeon is beginning to realize that certain actions of the viscera can be studied to better advantage with a fluoroscopic screen than by means of the x-ray plate.

Concentrated and applied study to this branch of röntgenology has clearly demonstrated that certain pathological conditions can be brought out only by means of a fluoroscopic examination. This should be of special interest to everyone in the medical and surgical field.

Until recently the barium platino-cyanid screen was the one used for fluoroscopic examination. This screen has always offered some objections, principally in that it is subject to very rapid deterioration. A new screen known as the astral has recently made its appearance and is growing in great favor. This new screen is made of a substance which fluoresces in the same manner as the barium platino-cyanid screen, but with a brighter, more contrasty, white light, under the same working conditions of the x-ray tube. The fluorescent material is said to be largely wilmite.

From the fact that this screen is more active as regards its fluorescent properties than the older types, it naturally means a saving in the upkeep of the x-ray tubes, since in many instances the case under inspection does not require as long exposure; or, on the other hand, if the current flow through the tube is reduced, there is, of course, less tube strain, which means added life. It is claimed for the astral screen that an equally bright image is cast, with approximately 60 percent of current flowing through the x-ray tube which would be required in the best grade of barium platino-cyanide screen. The astral screen is immune from damage by exposure to the x-rays—in fact, light of any kind—and is not affected by most acids.

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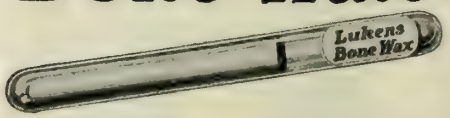

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3000 units in syringe-container..... 4.25
5000 units in syringe-container..... 6.00

Antistreptococcic Serum (Slee's)
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10 Cc. in vial..... 1.25
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Special prices for quantity orders.

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Price of any one, per dozen boxes of six ampules each $15.00
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NOTE: The above Bacterins are also supplied in syringe-containers, each dose being graded and properly adjusted as to bacterial content for greatest efficiency.
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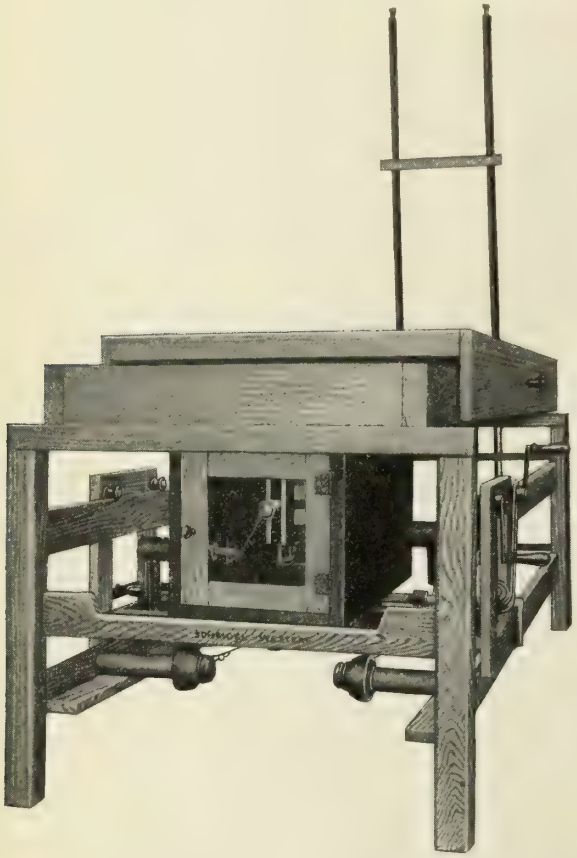
paratus for fluoroscopic examination, manufacturers have made some excellent improvements during the past year or two. The old box type of fluoroscoping is no more considered a scientific appliance, due, first, to the danger to the operator when using such a fluoroscope, since, in spite of the lead glass windows and protector as usually provided, a great many active rays are sent to parts of the operator's body; second, the area under examination is necessarily limited, and in making comparisons—for instance, of the apices—it is impracticable to shift the fluoroscope from side to side. For that reason larger sizes of screens are now being used for all purposes of examination. The factor of safety from unnecessary exposure of the operator to the rays is one which is given a great deal of attention. The lead glass bowls or protectors which are used on nearly all modern apparatus serve to practically



COMBINATION FLUOROSCOPIC EXAMINING TABLE,
with tube entirely inclosed in a lead-lined housing, with exception of area through which the rays pass to the patient.

limit the rays to the field under observation, cutting out most of the side rays. If such a bowl is used as a means of protection, the best results are to be had by inclosing the tube with some dark material, so as to prevent any reflecting light. Examination is made in a totally dark room, and it is common practice for the röntgenologist to remain in darkness some ten or fifteen minutes before the tube is rendered active.

Science shows us that the röntgenologist has in this way increased his powers of perception many times, and he is enabled to see clinically conditions and actions which would have been impossible had he not taken the precaution to accustom his eyes to the darkness. Most apparatus now built for fluoroscopic examination is so arranged that the operator can quickly and easily examine

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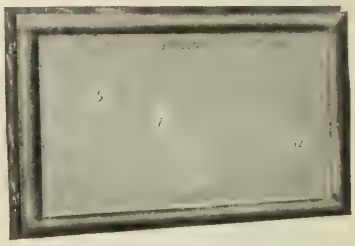

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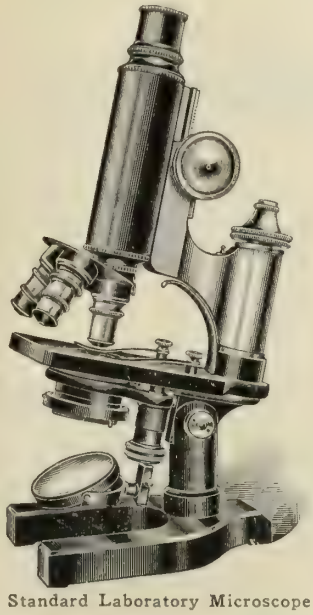

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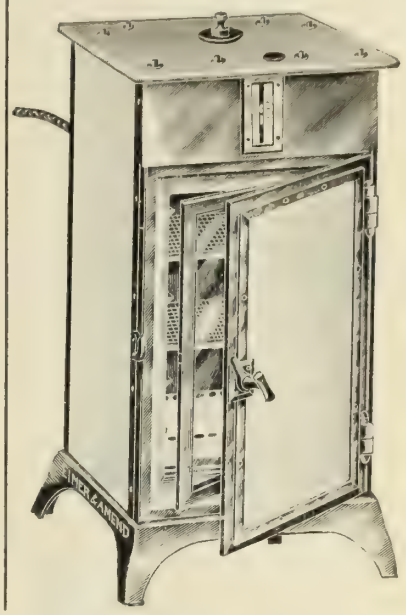

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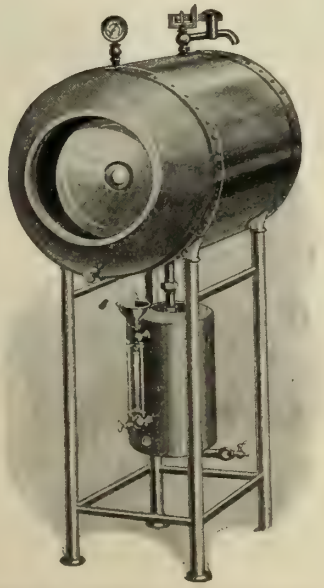

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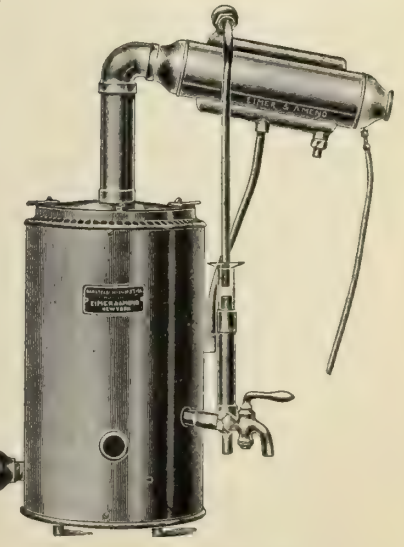


Barnstead Water Still

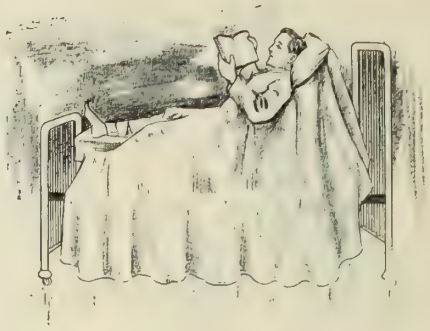
any part without disturbing the patient. Examination can be made with the patient in any position. Provision is also generally made for applying an x-ray plate in the place of a screen, so that, when the examination is made and a permanent record is desired of any part under observation, the radiograph is quickly completed.

Most x-ray laboratories and the hospitals are equipped with the proper apparatus as regards the coil or generator. If an induction coil is used, it is best that the interrupter should be one of the mercury type, preferably one working on the centrifugal principle rather than the older type of mercury turbin interrupter. These centrifugal mercury interrupters are now manufactured so as to do away with the emulsification of the mercury, making it unnecessary to clean them as frequently as was the case some years ago.

Where an entirely new x-ray plant is to be installed, it

Combination Radiographic and Fluoroscopic Examining Table.
When used with the fluoroscopic screen, which is suspended from a counterbalance in the illustration, the x-ray tube is placed under the table, rays directed upward, and the screen held over the patient.

is well to consider one of the newer types of so-called transformers, as these are now made so that the current may be regulated to such an extent that from one milliampere to as high as one hundred and fifty, or even more, milliamperes can be passed through the tube without the use of mercury, electrolytic or antiacid interrupter. Tubes to be used should be of large diameter—that is, 7 inches or larger. The water-cooled type gives the best results for screen examination, as the vacuum can be more evenly maintained than the tube of the air-cooled type. Tungsten target tubes will stand the heavy discharge of current better than tubes having targets made of platinum or silver. This applies, however, in a general way only. Most operators have certain tubes which they prefer for fluoroscopic and treatment purposes, and frequently one is fortunate enough to secure a tube of the ordinary type which gives surprisingly good results for a long period.



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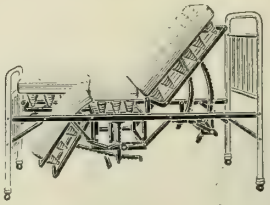

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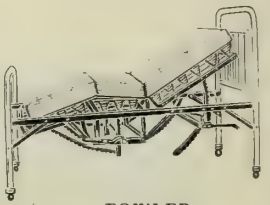

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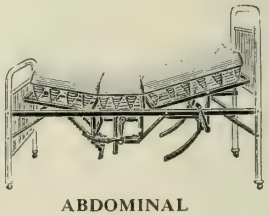

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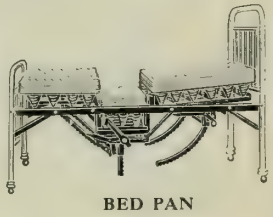

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McKeesport Hospital .....McKeesport, Pa.
Mt. Pleasant Memorial Hospital....Mt. Pleasant, Pa.
American Stomach Hospital.....Philadelphia, Pa.
St. Christopher's Hospital, Lawrence and Huntington Sts. .....Philadelphia, Pa.
Dixmont Hospital .....Pittsburgh, Pa.
Homeopathic Hospital .....Pittsburgh, Pa.
Pittsburgh Children's Hospital, Forbes and Craft Aves. .....Pittsburgh, Pa.
St. Joseph's Hospital, 2117 Carson St..Pittsburgh, Pa.
U. S. Public Health and Marine Hosp. Service .....Pittsburgh, Pa.
Sewickley Valley Hospital, Blackburn Ave. .....Sewickley, Pa.
Titusville Hospital .....Titusville, Pa.
Pa. State Hospital for Insane.....Warren, Pa.
Alleghany Co. Home.....Woodsville, Pa.
Alleghany Co. Hospital.....Woodsville, Pa.
Lakeside Hospital, 418 Jefferson St...Milwaukee, Wis.
Altoona Hospital.....Altoona, Pa.
German Hospital.....Chicago, Ill.

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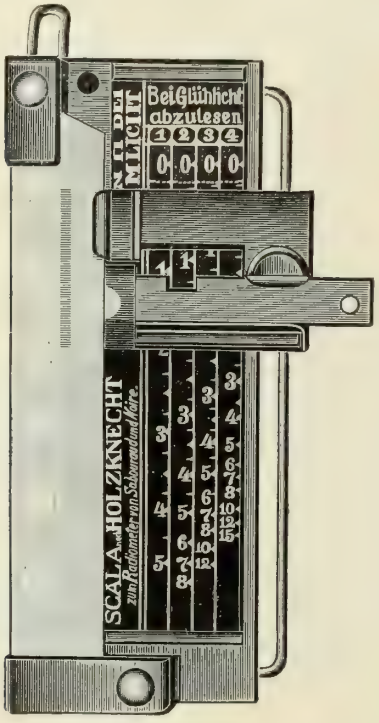
Since the early introduction of the Röntgen ray, as applied to medical science, many attempts have been made to accurately measure the dosage of x-ray exposure required in certain conditions. The beneficial results when this agent is properly used are, of course, now very generally acknowledged, yet the accurate measurement, until recently, offered a problem to be worked out on a basis which would always permit a known quantity of rays to be applied.

The more simple methods of determining the approximate amount of x-ray exposure have all proven more or less unsatisfactory, due to the fact that there has always been at least one factor which must be estimated by the operator.

In time past it was common practice to depend on the apparent hardness of x-ray tubes by measuring the parallel spark gap which the tube would "back up." This method, however, was far from accurate, as frequently the



mistake was made of reducing the primary current to the point where but a small spark gap was required. This, however, does not prevent the tube from becoming higher or harder during exposure, so the milliampere meter was adopted in order that the operator could judge whether the volume of current passing through the tube remained the same. If during exposure it became less, this would indicate that the tube was becoming higher in vacuum, and it was reduced. Still there remained the uncertainty of the quality of the ray in regard to its therapeutic action.

Villard then conceived the idea of using certain substances which change in color under the action of the x-ray; thus platino-cyanide of barium, when exposed for a sufficient time to the rays, changes from green to a reddish brown, and this change is in proportion to the quantity of the rays absorbed. This method has been known as Villard's reaction, and upon it is based the more scientific method of measuring x-ray dosage.

Sabouraud and Noiré worked out a system of measure-

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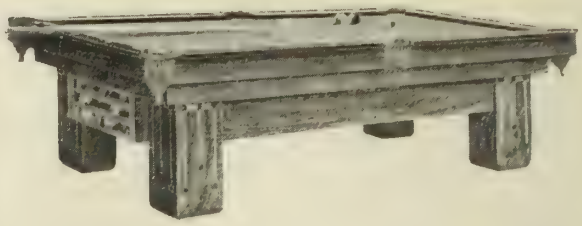
ments consisting of small pieces of paper, on which a thin layer of platino-cyanide of barium has been attached. The radiometer of Sabouraud and Noiré had, until recently, proven the most satisfactory basis for measurement of x-rays in treatment, but it fell short somewhat as to its measuring qualities and convenience in its application. With this instrument it is possible to read but a single dosage, making it necessary to estimate even the ordinary graduations of dosage.

Dr. Guido Holzknecht, professor of medical radiology at the University of Vienna, has succeeded in combining the valuable features of the Sabouraud and Noiré radiometer in an instrument which makes use of a graded color scale and a continuance color scale. Exact grades of color from green to reddish-brown can be read from the former, and any grade of color from green to reddish-brown from the latter.

The Holzknecht radiometer is made of hard rubber, on the right side of which is mounted a slide. This slide passes over the reading scale, and in the carrier of the slide are placed the reaction piece and the scale piece. The reaction piece is made of heavy cardboard, on one end of which is attached the reagent, consisting of a layer of platino-cyanide of barium in the form of a half disk. Opposite, on the scale piece, is another half disk. When these two are brought together a complete disk or pastille is formed. The continuance scale and the graded scale are formed by covering the disk of the platino-cyanide of barium and the half disk of the same substance on the scale piece with a strip of celluloid. The six disks on the graded scale under the colored celluloid band vary from above downward from a light-green to a brownish-yellow; thus there are six grades of color, representing six different strengths. The above disk in the scale piece, not having been exposed to the x-ray, being placed in the slide under the color band, has the usual greenish-yellow color of the platino-cyanide of barium as used in an ordinary fluoroscope, and, when it is exposed to x-rays, changes from one color to another, depending on the amount of exposure. In this way, moving the scale piece downward until the color matches that of the reaction piece, the exact amount of dosage is determined.

As a basis of comparison, the unit 1 H is now universally considered as one-third of the quantity of x-light which will induce a light reaction of the skin of the face of an adult, and approximately 5 H are necessary to reach tint B of the original Sabouraud radiometer. In order to reach the maximum action of the rays without reaction, the following units would be applied: adults, to the face, 2 H; head and joints, 3 H; body, 3.5 H. In this way one dose may be given at a single treatment, or the dose divided proportionately, so that the total dose would be the same after several exposures. It is possible to read ¼ H, and Professor Holzknecht states that he considers his present radiometer twenty times as exact as his original instrument, and it apparently will greatly simplify the use of the x-ray for therapeutic purposes.

The oldest hospital in the new world is the Hospital Jesus Nazerino in the city of Mexico. It was founded by Cortez in 1524, and is still conducted as a hospital, largely with an endowment left by the great conqueror in his will. The Dukes of Terranova y Monteleon, the descendants of Cortez, still exercise the right granted to Cortez to name the superintendent.



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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical and Nursing Services

Vol. I October, 1913 No. 2

PLANS FOR WORK IN THE PHIPPS PSYCHIATRIC CLINIC.

New Johns Hopkins Feature Intended for Treatment and Scientific Study of Obscure Mental Cases—Methods to Be Employed.

By ADOLPH MEYER, M. D., Director.
PROFESSOR OF PSYCHIATRY, JOHNS HOPKINS MEDICAL SCHOOL.

THE greatest boon that could possibly come to any branch of medical work is to get opportunities to develop activity in a medical center in close cooperation with other branches of medical work, research, and teaching. Psychiatry has not had this opportunity, and for this reason undoubtedly it has remained behind so long, and has appeared to the medical investigator and medical student as an unfruitful branch of medicine. A difficult chapter of medicine poorly taught, notwithstanding the best efforts of its teachers, was bound to bring misunderstandings and discouragement, and a perpetuation of old traditions, which were largely kept up because they make the physician's ignorance less conspicuous. Popular opinion is unfortunately not founded on experience, but very largely on traditional misinterpretations, and especially on such reports from patients with imperfect insight as would rouse the sympathy of the average person, not so much for the illness itself, but for some of its consequences, and justify the aversion against hospitals. Unfortunately the hospitals themselves were for a long time run according to principles which did not make for progress. Under the critical censorship of the fiscus of the state, and to quite an extent under the guidance of men who had been attracted to psychiatry by accident rather than by deep interest in psychiatry as such, the institutions had been allowed to grow so excessively and with such a small development of the medical staff that there was not very much done there to counteract the feeling of the medical profession and the public that continually reiterated the expression of hopelessness, and more or less condemnation. Even those sincerely interested in the progress of psychiatry had to experience many rebuffs, such as the fact that, in the greatest foundations of the modern day in the direction of research and investigation, psychiatry was always left out, and that, in even such a large enterprise as the Rockefeller Institute, the otherwise very full and comprehensive sketches drawn up in the addresses at its opening contained no word concerning the large field of psychopathology. A change has at last come, and that through the foundation, either close to medical schools or within the medical schools, of psychiatric clinics, a type of institution the first example of which was founded at Ann Arbor, Mich., by the late Dr. Herdman, professor of neurology, at a time when his colleagues in psychiatry claimed that the state would not be mature for such a move for at least twenty-five years; and then the Psychopathic Hospital in Boston, built by the state, under the direction of Dr. Owen Copp, and brought into close relation to Harvard by its location near the medical school and the Peter Bent Brigham Hospital, and through the appointment to its directorship of Dr. E. E. Southard, professor of neuropathology of Harvard Medical School. Even before the Boston Psychopathic Hospital had taken definite form in a legislative act, Mr. Henry Phipps gave his donation to the Johns Hopkins Hospital and University to found a psychiatric clinic, an institute the need of which Professor Osler had well outlined in his famous farewell address before he left Johns Hopkins University.

The first conception of such clinics no doubt was founded on the general idea that the beginning of mental disease should receive the same type of medical care as the general hospitals could afford. The extensive introduction of the so-called rest cures in the private wards of the hospital, and the theories of autointoxication and the no doubt

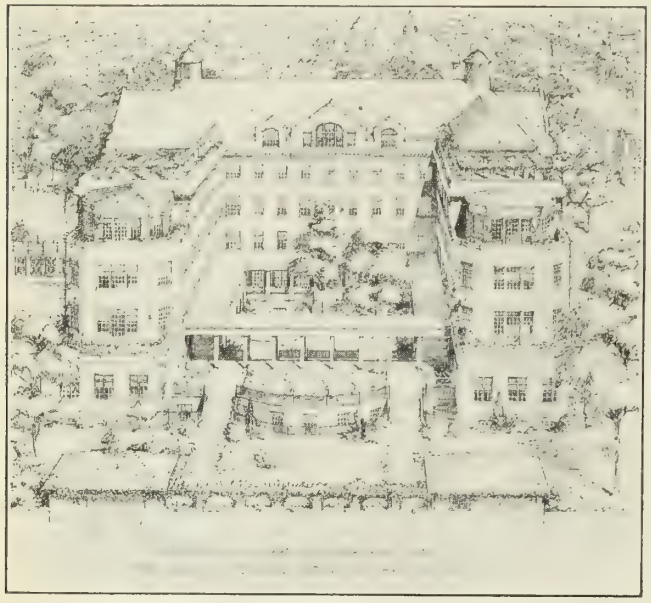

Fig. 1.

somewhat one-sided reports of various specialists of cures of reflex psychoses, had created a picture of what the psychiatric clinic might be, somewhat different from that in the minds of those actually engaged in psychiatry exclusively. To this was added the general recognition that the declaration of insanity which was demanded for the admission to most institutions for the treatment of psychoses was, as a rule, a painful deterrent and something of a stigma to those suffering and to the family, and, therefore, a hindrance to early care and treatment. A wide range of cases really had hardly ever come within reach of either the physician who worked in general hospitals or of the psychiatrist who worked in the special institutions for the insane. To the student of these questions it was perfectly plain that a much wider range of opportunities had to be furnished than either of the extreme representatives of internal medicine or of psychiatry in the older sense would have ventured to foresee. For teaching and for actual service of a locality it appeared necessary to make provisions both for the light cases and simple forms, and for those cases which so far had fared equally badly on account of the outspokenness of their trouble and the difficulty of handling the initial stages of their attacks. Neither type had so far been welcome in general hospitals, partly on account of certain risks, like risks of suicide, and partly on account of the difficulty of management, and the occasional transgressions of hospital rules by noisiness or other complicating disorders of conduct. Those who made the plans of the Henry Phipps Psychiatric Clinic had as far as possible to meet these complexities and difficulties. It appeared obvious that, both for teaching and in order to shape a really useful plant which could be a model of service to any locality or community, it was essential to provide facilities for the admission of *any* type of mental disorder from the very lightest to the gravest forms, which formerly were thrust into jails and lock-ups until they could be transferred to the padded rooms or cells of the asylums. It is among these cases that the greatest number of unnecessary deaths and abuses do take place, and it is absolutely essential that medical students and physicians trying to get acquainted with psychiatry must have an opportunity to learn to handle these cases and the situations they involve in the best possible manner. What we need in psychiatry is not an additional emphasis of the idea of stigma and contrast between special hospitals and the asylums, but an assurance to the public that cases with mental disorders, no matter how slight or no matter how grave, can find proper care and treatment in modern hospitals; and that the best possible attention to such cases, at as early a date as possible, is the vital issue. On the other hand, the internal organization of the hospital and of its workshops demands a much wider range of oppor-

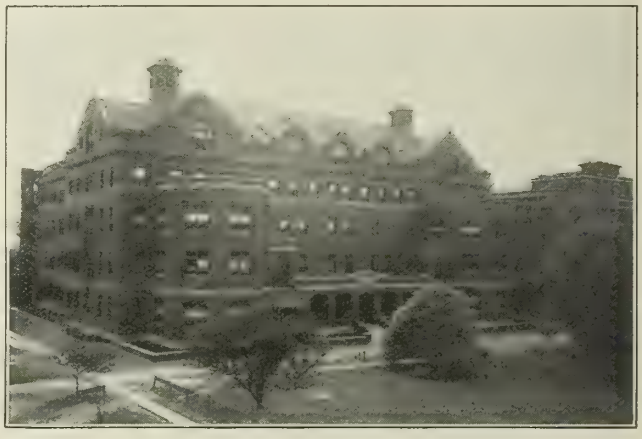

Fig. 2.

tunity than was usually bestowed on the internal medicine, or surgical, or gynecological, or other departments of hospitals and medical schools. The course of anatomy and of physiology and general pathology are to a remarkable extent devoid of instruction in the very things which are most closely needed in psychiatric work. The conse-

quence is that at least for a time the psychiatric department will have to work out its own salvation in laying the foundation for its work, teaching, and investigation. For various reasons even neuropathology had prospered rather scantily in the medical course so far, and the teacher in neurology had to work rather single-handed in his inevitably rather complex field, and psychology was practically an unknown quantity in the medical course, as indeed we must admit that it is hardly as yet developed along the lines most needed by the physician and by those basing their psychiatric work on biological principles.

In the planning of the building it was necessary to take into consideration not only the immediate opportunities and problems, but also the near future in the development of psychiatry and psychopathology. The result was a set of plans which incorporate the best possible facilities of accommodation for a wide variety of disorders from the simplest psychopathological disturbances which nobody would want to associate with the traditional ideas of mental disease to the outspoken mental disturbances; and, on the other hand, laboratory and research facilities in the internal medicine issues of mental disorders, and in the neuropathological work and also in psychopathology.

The provisions for the patients are, in the first place, an out-patient department, with a waiting room, which is in part also used for occupation classes and for the social service workers, and examination rooms, and a demonstration room for classes and instruction. For the actual clinic—that is, the hospital division—we have to provide an admission ward, facilities for the care of specially excited cases, then a semiquiet ward, a quiet ward, and a special ward for such cases as one would not care to bring into contact with the more decidedly mental disorders or mentally disturbed patients. In addition to these divisions the needs of the hospital and the great expense of the running of the clinic make it desirable to provide for a number of exclusively private suites and rooms.

The relatively small grounds left for the psychiatric clinic necessitated the erection of a multistory building, as nearly fireproof as any construction could be made. The front of the building looks almost directly to the north, and only few of its rooms would ever get any sun. This side was, therefore, almost exclusively devoted to administrative and laboratory and staff quarters, and the basement to the out-patient department. From either end of this north front a pavilion of four superimposed wards extends to the south, the basement containing the hydrotherapy provisions, mechanotherapy, and some orderlies' rooms; and the first floor, the admission ward extended into a small division for more excited cases; the second floor providing for ten semiquiet cases; the third floor for about sixteen quiet cases; and the fourth floor for eight private cases on each side of the house. While this plan necessitated a repetition of the housekeeping provisions for several floors, it seemed to be the only method of securing adequate and sufficient segregation of different types of cases. The top floor was reserved for the large recreation hall and for roof gardens.

A glance at the ground plan of the second floor gives the quickest orientation concerning the general organization of each ward. The unit consists of a ward with eight beds, two single rooms, and a day room. One room contains two tubs for continuous baths. There are further a toilet and lavatory, the utility room, a nurses' room, clothes room, an occupation room, and a physician's examining room. The first floor, with the admission ward, contains, first, an examination room for the physicians, a small waiting room, and a cleansing bath, a utility room and pantry, a clothes room, and a nurses' room, a toilet and lavatory, a single room for a patient, and then the ward for eight beds. Beyond that, instead of the day room, there is a division consisting of three single rooms and a small water section; and on the other side a small corridor opening into the court, and a bath room with two tubs for continuous baths; next to this, a small room with one tub for continuous bath and closet, adjoining a room for a private patient. The end of this ward is reserved for a small day room for the cases of this division. It is over this extension of the first floor that the second floor ward gets a fairly large open veranda or terrace connected with its day room. The third floor is arranged in a way similar to the second floor, with only the difference that the room for the tubs for continuous baths is replaced by a third single room for a patient, and the ward with the eight beds is subdivided by partitions so as to give a certain amount of privacy to each individual bed. Moreover, beyond the day room there is no terrace on this floor. The southern exposure of the middle part of the building is used as follows: on the first floor are the reception rooms; on the second floor rooms for the head nurse and her first assistant; on the third floor rooms for a small division for special cases, with three or possibly five beds, connected with a bath room. The fourth floor is taken up altogether with rooms and suites of rooms for private patients.

The reception ward must always provide for two special types of emergencies—viz., that occasion-

ally a case of mental disorder proves to be a disturbance precipitated by an acute infectious disease, possibly requiring quarantine, which should not have to close the whole first floor, but only one-half of it; the other point is that patients of a very excited character should not be taken through a whole ward of eight beds in order to reach a relatively secluded room. For these two reasons the excited division of the admission ward, if we may use that term, has been made accessible by a special entrance through the court, and, since this arrangement necessitated a covered path from the reception room to this further division of the admission ward, Mr. Atterbury de-

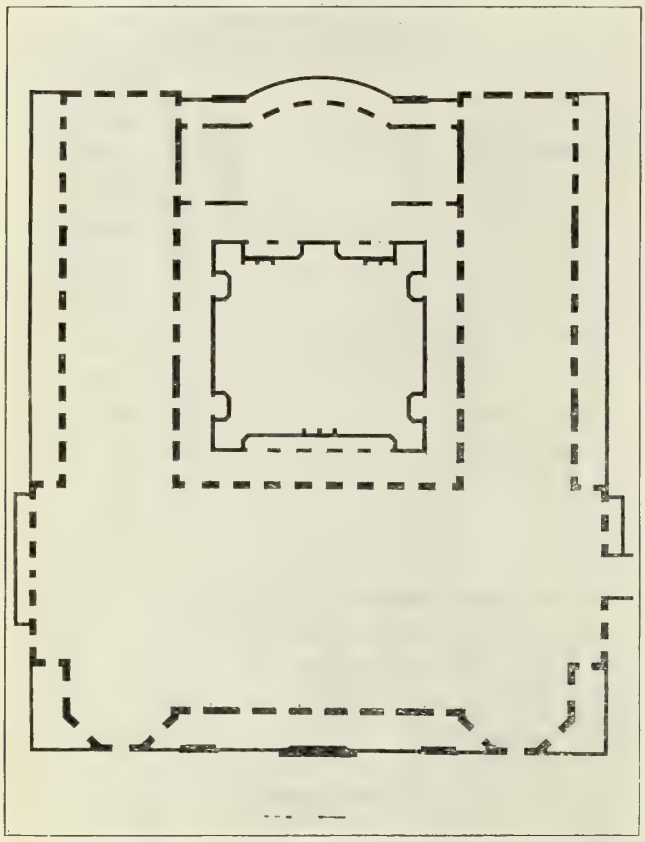

Fig. 3.

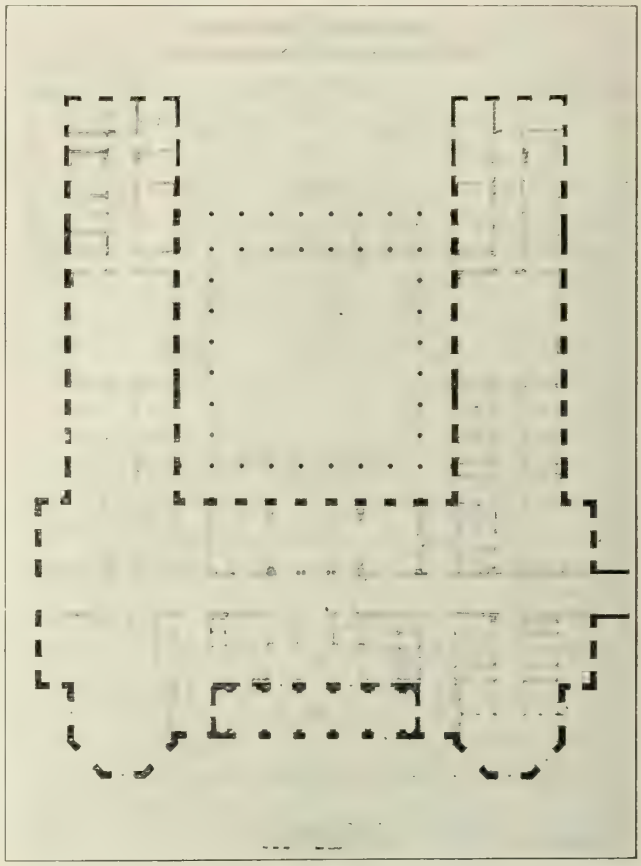

Fig. 4.

vised, very ingeniously, the effect of a cloister, which embraces a small garden and ends on a terrace which is really the roof of the mechanotherapy, and leads beyond that to the garden extending to the wall against Jefferson street, in which two attractive pavilions serve as a place of outing for groups of patients.

The clinical service is officered as follows: the director has an associate, Dr. Charles Macfie Campbell, who takes charge of the direction of the clinic in his absence. The resident staff consists of the resident physician, Dr. David K. Henderson; two assistant resident physicians, Dr. Ralph Truitt and Dr. Edward Kempf, and five interns. This staff will further be assisted by the heads of three laboratory departments; in the first place the laboratory division of the internal medicine problems, in charge of Dr. Sidney Miller, a large laboratory with two side rooms on the east end of the ground floor. The whole north side of the third floor is occupied by the neuropathological laboratory on the west side and a psychological laboratory on the east side, with eight research rooms situated between the main laboratory spaces. The head of the neuropathological laboratory will be in charge of the clinical issues of neuropathology as well as the distinctive histological and physiopathological experimental work of the neurological laboratory. The psychologist, who for some time probably will be a trained psychologist, without necessarily having a medical education, but who as soon as possible will be a physician with psychological training, will in a similar way have charge of the laboratory and its investigations, and also the psychological aspects of the clinical problems and the standardization of the psychological clinical work.

The second floor is devoted to a large library on the east wing of the north front, and the director's rooms, consisting of two offices, and two research rooms, and the lecture room complex, consisting of the lecture room proper, a waiting room,

chart room, projection room, and a draughtsman's room.

The entire clinic is an intrinsic part of the Johns Hopkins Hospital and Medical School. The food is furnished from the general kitchen. The nursing force is to be provided for in the general nurses' home. The nurses are partly nurses trained at the Johns Hopkins Hospital, with experience in various institutions for mental cases, and partly nurses who have had their training in private institutions of the United States or abroad.

The type of cases to be admitted will naturally depend to some extent on the demands made on the clinic. In general it is our hope that we shall be able to have a sufficient number of free beds to be able to make the hospital available for well circumscribed districts in the neighborhood which can be subjected to a sociological study, and can give an opportunity for both the study of the genealogy and heredity of the cases and also for the after-care and preventive work. We want to warn especially against sending patients to the hospitals without previous arrangements. The relative smallness of our accommodations makes it absolutely necessary that we should use careful judgment in the choice of the type of cases considered suitable. In the main we shall follow the principle that we are willing to accept almost any type of case for study, observation, diagnosis, and the outlining of the plan of treatment—that is to say, for a period of observation of a week or two—and that from these numbers we shall select those cases promising most from intensive treatment.

The clinic does not in any way want to form a fundamental contrast to the already existing helps in the care of mental diseases. It aims to be a valuable supplement, with the best possible facilities, and work conducted under the beneficial influence of continual use in teaching, in discussion, and under the eyes of colleagues working in the various specialties that have to be applied in psychiatrical work. It must do its share to do away with the widely spread notion of the stigma of insanity, not by making itself appear as something aloof of actual mental disorders, but by showing that any kind of mental disorder receives very intense and well-directed work, and not merely asylum care and shelter.

Among the most important effects of the working of such a hospital we have to count the opportunity it affords to the medical student, and to some extent to post-graduate workers, to get a first-hand experience with the way mental cases are studied and treated. It is not fair to leave this whole question to untrained common sense. Psychiatry really has so many perplexities and difficulties, and also adequate methods to meet them, that it would not do to leave these conditions any longer to the guessing and mere native ingenuity of physicans and of lay persons. To spread a knowledge of these facts we must have opportunities to get actual practice in the wards and their laboratories and in research. This is as much needed in psychiatry as it is in obstetrics, a field in which nobody would think of being able to get all the practical information merely from books or from didactic lectures. It is very much to be hoped that before so very long physicians who are to be given the license to work on mental cases should have to demonstrate that they have actually studied and treated a certain number, at least a dozen or two dozen cases, personally and completely under adequate supervision, before they are allowed to pass on mental disorders in the form of commitment or to take charge of the treatment of such cases.

NOTES.

1. I realize that there is a strong desire for hospitals exclusively for "borderland cases." While I can understand what leads to this desire, practical experience in psychiatry demonstrates to me a rather different need. It is much less essential that we should pay attention to the more or less secondary and irrelevant feelings than to the actual medical adjustment of the troubles with which the patients come to us. The average hospital acts on the principle that a patient who ceases to cooperate well should be discharged and sent elsewhere. If we made our criterion of admission that of absolute submissiveness, we should have to eliminate many of those cases who today fare very poorly, but who are not at all less hopeful and grateful patients in the end for having perhaps gone through a somewhat noisy and objectionable phase. The noncompromising and inconsiderate banishment of just these cases seems to me to be at the bottom of the bulk of legislation which has given an official stamp to the so-called stigma. It is unfortunate that even physicians, owing to the paucity of their information in psychiatry, are very apt to speak volubly of this issue of stigma and to contrast the cases with hereditary disposition as stigmatized and those of subsidiary organic or external causation as free of the stigma. As far as my experience goes, the line is drawn without such distinction by the average public. The mere fact of a declaration of insanity constitutes the stamp of "craziness," and that in turn the notion of incurability or of a fundamental unreliability of the make-up of the personality. On the part of physicians we not infrequently find the idea that the cases due to

extraneous causes are more recoverable and therefore more fit for general hospital treatment, which, however, is by no means the case. Moreover, it is worth while remembering that duration is not a safe index. Twenty-five percent of those who recover from mental disorders to a level of their previous earning capacity do so after a duration of their disease of over one year. Neither the mere fact of mental disorder, nor the duration, nor even the hereditary character, should provoke the idea of stigma, because many of the hereditary disorders are eminently recoverable. It is more probably kept alive by the fact that quite unnecessarily many states take for granted that a jury, or at least a court, is to decide whether a patient shall get the proper care, including protection against himself. The idea of stigma would be much lessened if the matter of treatment of mental cases were left in the hands of sufficiently trained physicians—like any other issue of quarantine. In a few states all that is needed is the certificate of two physicians handed to the superintendent of the institution, without any requirement of sanction by a court, but usually with the obligation of notification of the State Board of Mental Health. Even this certificate should be called for only where the patient refuses to go to the hospital voluntarily, and actually asks for the privilege of independent medical examination. Only in the relatively rare cases where the issue becomes one of need of guardianship, or in habeas corpus proceedings, should the courts be resorted to.

2. The great difficulty lies, of course, in the fact that quite a few patients, including those of the most recoverable types, are apt to be disturbing, and, therefore, undesirable for the hospital and its neighborhood. One of the most important practical problems of psychiatry is, therefore, to devise means of taking care of otherwise undesirable cases, so as to make unnecessary the transfer to special hospitals at a critical stage of their illness. The only way to eradicate the popular notion of "the insane wards" of a general hospital or of a clinic will be to make these provisions so much superior to what is at present available in general hospitals, and to the so-called excited wards of the overcrowded asylums, that the justification for calling these places "bull pens" and the like, and the annoyance to the neighborhood, is overcome. This naturally presupposes satisfactory rooms, as far as practicable noiseproof, with special provi-

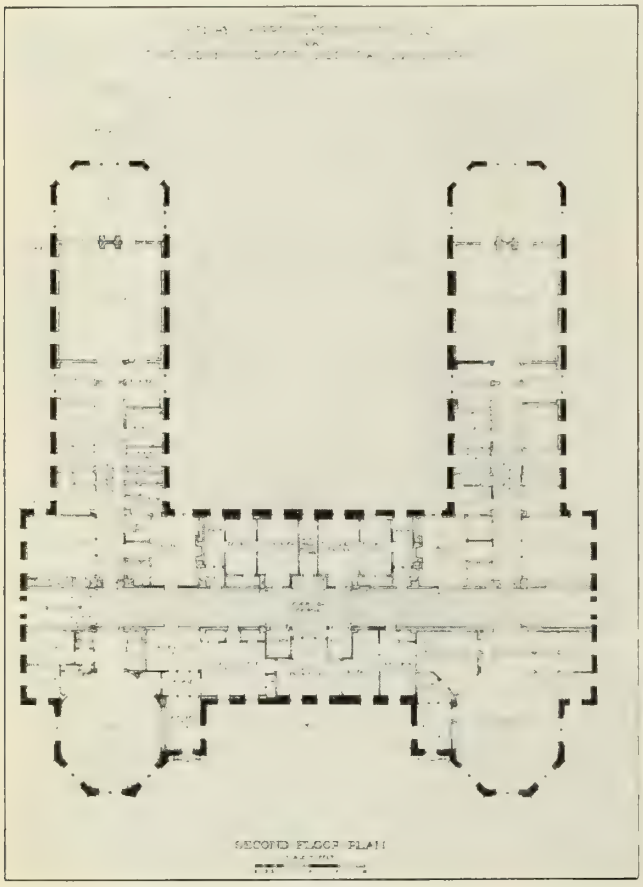

Fig. 5.

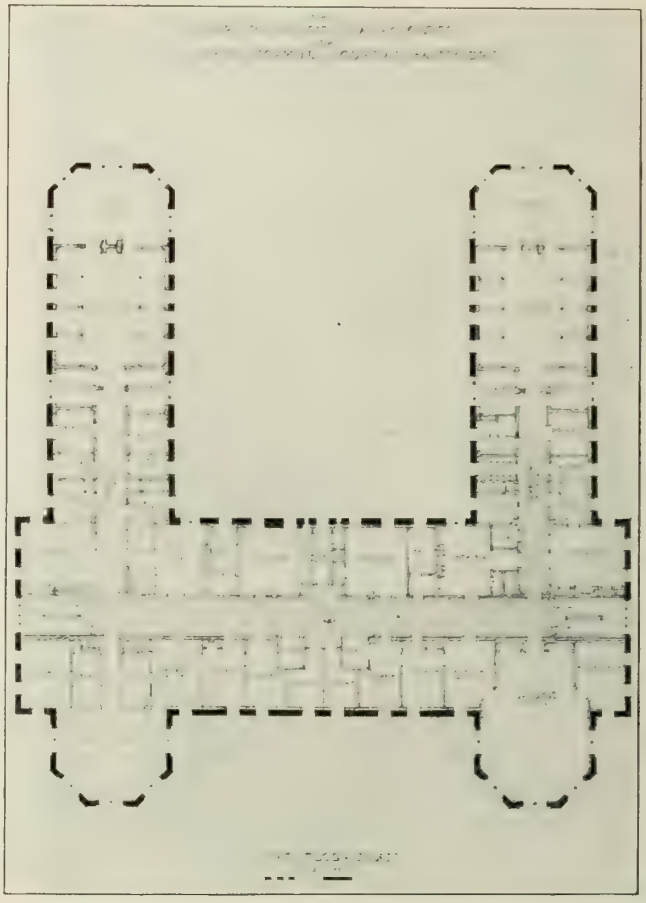

Fig. 6.

sions of ventilation, making it unnecessary to use merely a repressive policy in the handling of the patients. The hospital which will solve this problem, with adequate protection of the neighborhood and mutual protection of its own patients, will have solved one of the most burning problems of practical psychiatry. The provisions available at the Phipps Clinic are fairly effective. The rooms are provided with double walls, with air partition; the doors also are double, with air partition. Ventilation is provided by a general suction fan and also by a fan placed in the wall. There is no

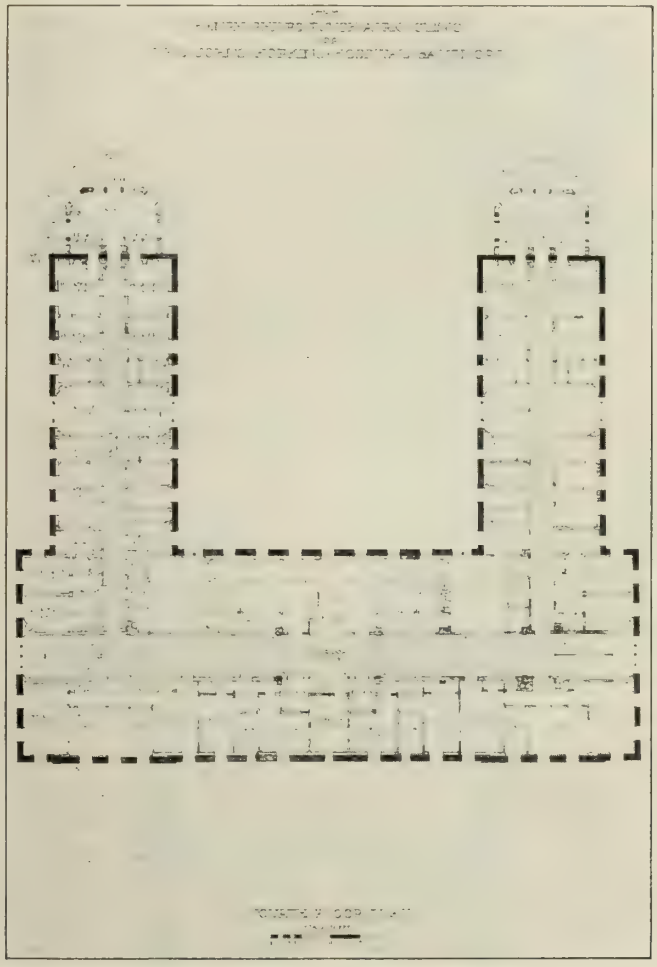

Fig. 7.

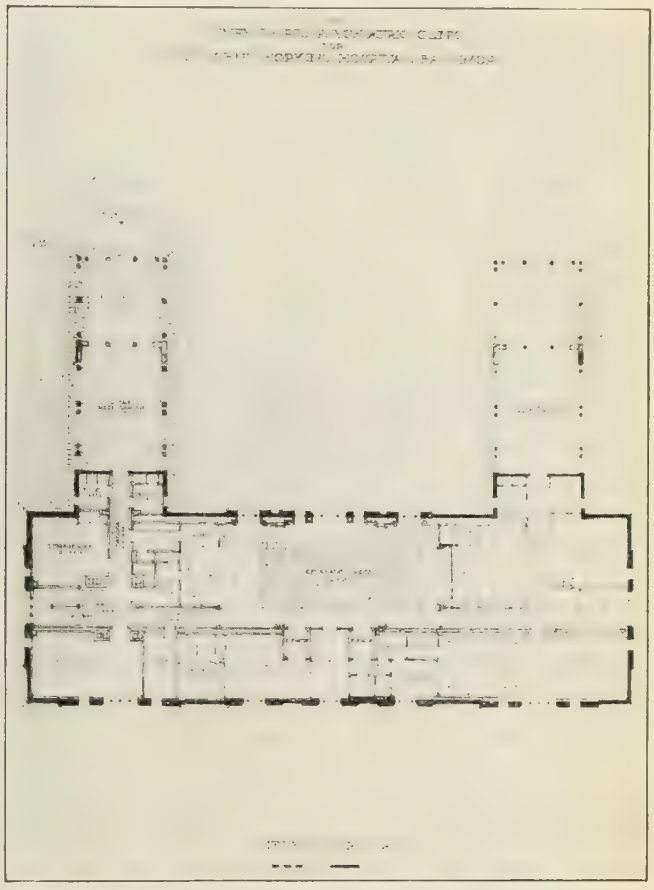

Fig. 8.

doubt that most of the avoidable deaths in mental diseases occur in the acute excitements, and no doubt also many of the unnecessary injuries to body and mind and to the feelings—hence the very great importance of improving the provisions for such cases in all hospitals, because every hospital is likely to have cases of delirium or excitement.

3. With regard to the laboratory divisions, it may deserve emphasis that the prospective heads of these departments will have to be not mere laboratory men, but directly in charge of the life problems with the patients as well as with the subsidiary research problems of the laboratory itself. Thus Dr. Sydney R. Miller has as his field of work not only the internal medicine laboratory, but he supervises and controls all the internal medicine work done on our patients, and pushes it with the facilities of his well-equipped laboratory, and with opportunities for experimental work. Similarly the head of the laboratory of neuropathology will not only do the histological work connected with the autopsies and the post-mortem work on the experimental animals, but will be directly connected with the neuropathological work with the patients and the experimental studies which can be connected with such work. The laboratory is not to be a mere post-mortem laboratory, but one which treats the post-mortem studies as *one* of the controls of the work on the living. The psychologist will be chosen from among those who consider psychology as a branch of biology and not as the abstruse, nonconnected domain of a purely introspective science. Psychology of this type will assert its kinship with common sense and make unnecessary the widespread complacency with which many physicians think that mental disturb-

ance should be studied merely as a reflection of things that can be seen under the microscope. While, to be sure, we aim to get at all the facts demonstrable by the microscope, there always will remain the task of explaining these facts in terms of experimental medicine, and, as soon as an attempt is made to do that, mental diseases call for studies of a broader biological kind, evidently too much neglected over a habit of misrepresenting the problems and the work of psychology and psychopathology. When we come to study the habit disorders and the conditions precipitating mental conflicts and other undoubtedly psychological problems, we find that the functional facts call for a great improvement of our methods of functional studies, whether they be of the field of internal medicine, or of neurobiology, or of psychobiology.

DISINFECTION AS PART OF THE HOSPITAL ADMINISTRATION.

Description of the Technic of Isolation in a Special Hospital for the Care of the Communicable Diseases.

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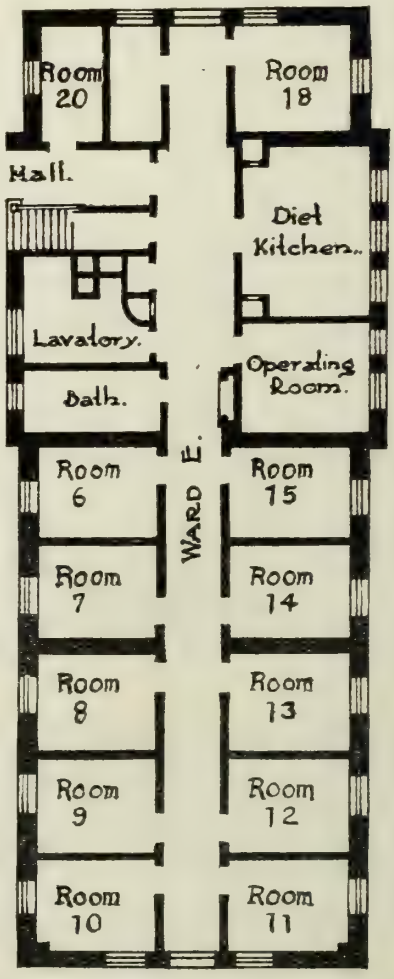
THE object of this paper is to present some facts concerning room and ambulance disinfection after contagious diseases. Results of room disinfection are based on an experience of two years—January 1, 1911, to January 1, 1913—in Ward E of the Providence City Hospital. This ward is on the first floor of the Isolation Building, into which are placed doubtful or mixed cases of scarlet fever and diphtheria, nearly all cases of chicken-pox, whooping-cough, rubella, mumps, measles, and miscellaneous cases of other infectious diseases, real or suspected, which enter the hospital. The ward contains twelve rooms, in each of which there is never more than one patient. Ten of these rooms are arranged opposite to each other, five on each side of a common corridor. The other two are situated more removed, one leading from the common corridor and one from the entrance vestibule. The technic of this ward is based on the principles of aseptic nursing. The infection is confined to the rooms immediately occupied by the patients, while the utility rooms and the corridor are as free from contagion as are those of any general hospital. The same nurses, observing aseptic precautions, care for all the patients.

When a patient is ready for discharge, he is taken to a bath-room, where he receives his discharge bath and puts on clean clothing. The room which he has vacated, together with its contents, is treated as follows:

The linen is taken out, thrown down a chute, and falls into a canvas bag in the basement. The linen is collected twice a day and taken to the laundry, where it is washed in ordinary laundry washers. The mattress and pillows are sent to the steam sterilizer. All utensils are boiled for at least ten minutes, except those which would be injured by boiling, such as some glass and rubber goods, which are treated with a solution of 1-20 carbolic acid. The floor, bed, bedside table, chair, lavatory, and walls within reach of the patient are



WARD E OF THE PROVIDENCE CITY HOSPITAL.

washed with soap and water. Fumigation is never employed. Clean supplies are placed in the room as soon as there is need of the room for a

new patient. The ward is always well occupied, and new patients are frequently placed in such rooms as soon as the room is cleaned. If they are not needed immediately, they are aired just as one would air any room after a noncontagious disease.

During the two-year period under consideration, 377 patients have been treated in this ward. Tables will be found below showing the diseases treated in each room in their chronological order. Each room is indicated by its number. Following the tables are comments on the secondary diseases which may have developed in patients occupying the rooms. It should be borne in mind that not a small number of the cases removed from these rooms were still in the acute process of the disease, being transferred to the scarlet fever or diphtheria wards after the diagnosis was clearly made. It will be noted that certain patients suffered from more than one disease, and that in a considerable number of cases the patient was admitted to the room the same day that the previous occupant was discharged.

ROOM 6.

Whooping-cough	Oct. 15 (1910)–Jan. 5 (1911)
Tonsillitis	Jan. 6–Jan. 14
Scarlet fever	Jan. 18–Feb. 17
Diphtheria	Feb. 18–March 4
Diphtheria	March 7–March 14
Peritonsillar abscess	March 15–April 3
Diphtheria carrier	April 4–April 18
Measles	April 19–April 21
Whooping-cough	April 21–May 13
Measles (malignant)	May 14–May 14
Scarlet fever	May 16–May 30
Rubella	May 30–June 11
Scarlet fever	June 11–July 17
Diphtheria	July 19–July 20
Tonsillitis and scarlet fever contact	July 21–July 25
Cholera (observation negative)	July 31–Aug. 9
Scarlet fever (malignant)	Sept. 6–Sept. 9
Scarlet fever	Sept. 12–Sept. 21
Erythema	Sept. 22–Oct. 12
Whooping-cough	Oct. 16–Oct. 18
Alveolar abscess	Oct. 20–Nov. 2
Whooping-cough	Dec. 22 (1911)–Jan. 8 (1912)
Diphtheria, chicken-pox, and measles	Feb. 4–Feb. 29
Diphtheria and chicken-pox	Feb. 29–March 15
Tonsillitis	March 15–April 4
Measles	April 4–April 5
Scarlet fever and chicken-pox	April 5–April 15
Measles and scarlet fever	April 15–April 20
Measles	April 20–May 11
Rubella	May 11–May 24
Erythema	May 24–May 27
Rubella	May 27–June 10
Diphtheria	June 10–June 24
Tuberculosis and whooping-cough	July 28–Aug. 5
Scarlet fever	Aug. 14–Aug. 25
Chicken-pox	Aug. 25–Sept. 17
Laryngitis	Sept. 22–Sept. 25
Scarlet fever[1]	Oct. 4–Nov. 8
Diphtheria and scarlet fever (?)[2]	Nov. 10 (1912)–Jan. 19 (1913)

ROOM 7.

Whooping-cough[3]	Dec. 30 (1910)–March 8 ('11)
Whooping-cough	March 10–March 23
Chicken-pox	March 23–April 21
Diphtheria	April 22–April 22
Whooping-cough	April 22–May 20
Rubella	May — –May 31
Scarlet fever and gonorrheal vaginitis	May 31–June 13
Measles	June 13–July 2
Diphtheria	July 4–July 13
Scarlet fever	July 14–Aug. 3
Measles	Aug. 8–Aug. 22
Whooping-cough	Sept. 1–Sept. 2
Tonsillitis	Sept. 10–Sept. 27
Rubella	Oct. 1–Oct. 16
Diphtheria	Oct. 24–Nov. 9
Whooping-cough and measles	Nov. 11–Nov. 29
Diphtheria, laryngeal	Dec. 6–Dec. 13
Diphtheria	Dec. 15–Dec. 30
Whooping-cough	Dec. 31 (1911)–Jan. 20 (1912)
Diphtheria and chicken-pox	Jan. 20–Feb. 3
Rubella	Feb. 3–Feb. 13
Chicken-pox	Feb. 13–Feb. 27
Whooping-cough, chicken-pox, and measles	Feb. 28–March 18
Rubella	March 18–April 11
Whooping-cough	April 11–April 20
Diphtheria and chicken-pox	April 20–May 1
Scarlet fever and chicken-pox	May 1–May 6
Measles and noma	May 6–Aug. 2
Chicken-pox and scarlet fever	Aug. 4–Aug. 6
Scarlet fever and chicken-pox	Aug. 16–Aug. 18
Chicken-pox	Aug. 19–Sept. 25
Lobar pneumonia and whooping-cough	Sept. 28–Oct. 24
Diphtheria	Oct. 25–Nov. 13
Measles	Nov. 27–Dec. 10
Diphtheria	Dec. 11–Dec. 26

ROOM 8.

No diagnosis	Dec. 11 (1910)–Jan. 7 (1911)
Whooping-cough	Jan. 23–March 19
Laryngitis (diphtheria?)[4]	March 20–April 24
Scarlet fever	April 25–June 26
Scarlet fever	Aug. 10–Sept. 16
Scarlet fever	Sept. 18–Sept. 20
Scarlet fever	Sept. 20–Oct. 17
Measles	Oct. 18–Oct. 31
Diphtheria[5]	Nov. 3 (1911)–Feb. 14 (1912)
Diphtheria and chicken-pox	Feb. 14–March 13
Measles	March 13–March 29
Diphtheria	March 29–March 30
Chicken-pox and scarlet fever	March 30–April 16
Measles	April 16–April 23
Whooping-cough	April 23–April 30
Mumps	April 30–May 11
Rubella	May 12–May 22
Measles and noma	May 22–May 31
Measles	July 2–July 16
Whooping-cough	July 19–Aug. 4
Whooping-cough	Aug. 8–Aug. 28
Chicken-pox	Sept. 6–Oct. 4
Chicken-pox	Oct. 14–Nov. 5
Scarlet fever	Nov. 8–Dec. 9

ROOM 9.

Scarlet fever	Nov. 28 (1910)–Jan. 16 ('11)
Scarlet fever	Jan. 18–Jan. 23
Measles	Jan. 23–Jan. 25
No diagnosis	Jan. 26–Feb. 22
Measles	Feb. 22–March 7
Diphtheria	March 11–April 10
Scarlet fever	April 15–May 15
Whooping-cough	May 16–May 26
Whooping-cough	May 27–May 31
Scarlet fever	June 4–June 19
Chicken-pox	June 19–July 2
Scarlet fever	July 4–Aug. 11
Chicken-pox	Aug. 12–Aug. 25
Whooping-cough	Sept. 1–Sept. 17
Scarlet fever[6]	Sept. 26–Nov. 12
Whooping-cough	Nov. 18–Nov. 23
No diagnosis	Nov. 26–Dec. 12
Whooping-cough	Dec. 12 (1911)–Jan. 2 (1912)
Scarlet fever and chicken-pox[7]	Feb. 14–March 11
Whooping-cough and measles	March 12–April 17
Scarlet fever and chicken-pox	April 17–May 7
Measles	May 7–May 20
Measles and diphtheria, laryngeal	May 20–May 21
Measles, noma, and chicken-pox	May 21–May 25
Rubella	May 25–June 8
Measles	June 9–June 22
Scarlet fever	June 28–July 4
Measles	July 4–July 19
Scarlet fever	July 21–July 21
Whooping-cough	July 25–Aug. 4
Scarlet fever[8]	Aug. 6–Oct. 7
Observation	Oct. 14–Nov. 5
Influenza	Nov. 5–Nov. 19
Scarlet fever	Nov. 21–Dec. 16

ROOM 10.

Scarlet fever and diphtheria	Dec. 24 (1910)–Jan. 25 ('11)
Diphtheria	Jan. 29–Jan. 30
Scarlet fever	Jan. 30–Feb. 28
Chicken-pox	March 1–March 20
Otitis media, acute	March 22–April 8

[1]This was a very doubtful case of scarlet fever.

[2]Developed scarlet fever December 16, 1912, 36 days after admission to hospital. Was referred to hospital for diphtheria, which clinically she presented, but was detained that period of time because a brother, admitted the same day, presented symptoms of scarlet fever. During this period she showed some signs of desquamation. She developed a very definite, but very mild, attack of scarlet fever December 16. There was a patient convalescent with scarlet fever in the room opposite her at the time she developed the disease.

[3]Developed mild attack of scarlet fever January 24, 1911. Three other cases developed about the same time in this ward January 29, January 30, and February 23, respectively. We thus have every reason to believe that the disease was transmitted by some one employed in the ward and not from some infection remaining in the room.

[4]Developed scarlet fever January 29, 1911. One of the group referred to under note 3.

[5]Developed measles November 30, 1911, after being in the hospital 27 days. Belonged to a group of measles cases that developed about the same time—September 30, November 14, November 27 (2), and December 4. We again have every reason to believe transmission was by those caring for these cases.

[6]Developed measles September 30, 1911. One of the group referred to under note 5.

[7]Developed measles at home March 15, 1912, 4 days after leaving hospital. Three other cases of measles developed in this ward February 28 (2) and March 12. We believe that this child belongs to that group and was infected by faulty technic. It will be noted that the next previous case of measles treated in that room was February 22 to March 7, 1911.

[8]Developed chicken-pox September 2, 1912. Another child in this ward developed chicken-pox September 18. There had been no chicken-pox in the room since August 12-25, 1911.

Scarlet fever	April 10–April 15
Scarlet fever	April 16–June 9
Scarlet fever	July 12–Oct 6
Diphtheria[9]	Oct. 14 (1911)–Feb. 10 (1912)
Variola	Feb. 10–Feb. 10
Whooping-cough[10]	Feb. 11–April 6
Rubella	April 6–April 26
Rubella	April 27–May 3
Rubella	May 3–May 16
Measles and noma	May 16–May 28
Scarlet fever	May 28–June 24
Scarlet fever	July 3–July 4
Measles	July 4–July 20
Scarlet fever	July 23–July 28
Diphtheria and tuberculosis	July 31–Aug. 12
Diphtheria and scarlet fever	Aug. 25–Aug. 26
Scarlet fever	Aug. 27–Aug. 28
Scarlet fever and chicken-pox	Sept. 9–Oct. 29
Eczema	Oct. 30–Nov. 4
Scarlet fever and diphtheria	Nov. 5–Nov. 26
Diphtheria	Nov. 27–Dec. 12

ROOM 11.

Chicken-pox	Dec. 16 (1910)–Jan. 14 ('11)
Diphtheria	Jan. 14–March 28
Measles	April 2–May 4
Tonsillitis	May 7–May 14
Rubella	May 16–May 23
Rubella	May 23–June 5
Mumps	June 6–June 25
Chicken-pox	June 25–July 21
Whooping-cough	July 21–July 26
Diphtheria	July 31–Aug. 19
Erythema multiforme	Aug. 20–Sept. 25
Tonsillitis	Sept. 26–Oct. 11
Measles and whooping-cough	Oct. 16–Dec. 23
Whooping-cough	Dec. 26 (1911)–Jan. 22 ('12)
Scarlet fever	Jan. 23–Jan. 29
Measles	Feb. 1–Feb. 2
Measles	Feb. 2–Feb. 15
Measles	Feb. 16–Feb. 29
Measles	March 1–March 28
Measles	March 29–March 31
Rubella	March 31–April 13
Scarlet fever and diphtheria	April 13–April 24
Rubella	May 7–May 20
Pneumonia	May 20–May 20
Tuberculosis, pulmonary	June 7–July 1
Whooping-cough	July 10–Aug. 29
Tonsillitis	Sept. 7–Sept. 11
Peritonsillar abscess	Sept. 19-Sept. 22

ROOM 12.

Whooping-cough[11]	Dec. 6 (1910)–March 7 ('11)
Diphtheria	March 8–April 11
Broncho-pneumonia	April 12–April 29
Scarlet fever	May 1–May 8
Measles	May 8–May 27
Rubella	May 27–June 9
Scarlet fever	June 9–June 30
Variola	July 1–July 2
Whooping-cough	July 6–July 6
Chronic laryngeal stenosis	July 8–Aug. 10
Scarlet fever	Aug. 12–Aug. 19
Measles	Sept. 11–Sept. 26
Scarlet fever	Oct. 4–Nov. 5
Measles	Nov. 7–Nov. 11
Acute otitis media	Nov. 22–Nov. 29
Bronchial asthma	Dec. 5–Dec. 8
Measles	Dec. 12–Dec. 28
Measles	Dec. 28 (1911)–Jan. 11 ('12)
Secondary syphilis	Jan. 28–Feb. 5
Chicken-pox	Feb. 5–Feb. 22
Observation[12]	Feb. 23–March 3
Diphtheria	March 4–March 19
Rubella	March 20–April 5
Scarlet fever and chicken-pox	April 5–April 19
Scarlet fever and rubella	April 19–May 9
Scarlet fever	May 10–May 14
Laryngeal diphtheria and measles	May 14–May 15
Scarlet fever	May 15–June 13
Tonsillitis	June 15–July 6
Pneumonia	July 3–July 9
Measles, malnutrition and chicken-pox[13]	July 10–Oct. 10
Erythema multiforme and diphtheria carrier	Oct. 16–Nov. 7

ROOM 13.

Whooping-cough	Oct. 19 (1910)–Jan. 11 ('11)
Diphtheria[14]	Jan. 7–March 28
Bronchitis	March 29–March 30
Diphtheria	March 31–April 25
Scarlet fever	April 26–May 26
Measles	May 31–June 17
Scarlet fever	June 17–July 13
Whooping-cough	July 17–Aug. 6
Impetigo[15]	Aug. 6–Dec. 16
Chicken-pox	Dec. 16–Dec. 23
Measles	Dec. 24 (1911)–Jan. 10 ('12)
Measles	Jan. 10–Jan. 26
Multiple arthritis	Jan. 27–Feb. 8
Measles	Feb. 9–Feb. 14
Whooping-cough[16]	Feb. 14–May 3
Rubella	May 3–May 4
Rubella	May 4–May 17
Alveolar abscess	May 17–May 25
Measles	May 25–June 11
Scarlet fever and diphtheria	June 11–June 11
Scarlet fever	June 12–June 14
Status lymphaticus	June 14–June 15
Scarlet fever	June 16–July 13
Whooping-cough	July 16–July 20
Whooping-cough	July 27–Sept. 1
Scarlet fever and chicken-pox	Sept. 9–Sept. 12
Diphtheria	Sept. 15–Oct. 7
Diphtheria	Oct. 9–Oct. 28
Diphtheria	Oct. 29–Dec. 3
Diphtheria	Dec. 4–Dec. 4
Lobar pneumonia and diphtheria carrier	Dec. 5–Dec. 20

ROOM 14.

Chicken-pox	Dec. 6 (1910)–Jan. 14 (1911)
Diphtheria	Jan. 18–Feb. 25
Chicken-pox	Feb. 25–March 24
Whooping-cough	March 24–March 28
Measles	March 28–April 10
Measles	April 12–April 26
Whooping-cough and chicken-pox	April 26–June 5
Enteritis	June 7–June 29
No diagnosis	July 1–July 13
Whooping-cough	July 16–Oct. 24
Measles and whooping-cough	Oct. 25–Dec. 6
Measles	Dec. 8–Dec. 28
Measles	Dec. 29 (1911)–Jan. 13 ('12)
Whooping-cough[17]	Jan. 13–March 23
Rubella	March 23–April 5
Urticaria	April 5–April 6
Whooping-cough	April 6–April 20
Diphtheria	April 21–May 5
Measles	May 21–June 3
Rubella	June 4–June 11
Tonsillitis	June 12–June 24
Measles	June 25–July 2
Tonsillitis	July 12–July 17
Measles	July 26–Aug. 9
Measles and scarlet fever	Aug. 20–Oct. 1

ROOM 15

Scarlet fever	Nov. 28 (1910)–Jan. 3 (1911)
Broncho-pneumonia and tonsillitis	Jan. 3–Jan. 19
Scarlet fever	Jan. 20–Feb. 8
Rhinitis	Feb. 14–April 6
Chicken-pox	April 6–April 18
Whooping-cough and chicken-pox	April 20–May 3
Whooping-cough	May 5–May 16
Whooping-cough	May 17–May 18
Scarlet fever and chicken-pox	May 18–May 18
Scarlet fever	May 21–Sept. 28
Scarlet fever	Sept. 29–Oct. 21
Scarlet fever	Oct. 24–Nov. 7
Scarlet fever and chicken-pox[18]	Nov. 11–Dec. 22
Scarlet fever	Dec. 23 (1911)–Jan. 18 ('12)
Measles	Jan. 18–Jan. 31
Diphtheria and chicken-pox	Feb. 1–Feb. 19
Measles	Feb. 20–March 5
Measles and scarlet fever[19]	March 5–April 17
Measles	April 18–May 21
Tonsillitis	May 22–June 12
Tonsillitis	June 14–June 19
Measles	June 21–July 4
Pityriasis rosea	July 4–July 16
Tonsillitis	July 16–July 20
Diphtheria	July 21–Nov. 19
Scarlet fever and diphtheria carrier	Nov. 21–Dec. 17
Pulmonary tuberculosis	Dec. 20–Dec. 22
Tonsillitis	Dec. 23–Dec. 31

ROOM 18.

Scarlet fever	Dec. 4 (1910)–Jan. 10 (1911)
Scarlet fever	Jan. 17–Feb. 2
Diphtheria	Feb. 6–Feb. 19
Scarlet fever	Feb. 24–March 16
Diphtheria	March 17–April 5
Diphtheria	April 6–May 10
Chronic nephritis	May 11–May 20
Measles	May 20–June 2
Rubella	June 8–June 25

[9]Developed measles November 27, 1911. Other cases developed in this ward September 30, November 14, 27, and 30, and December 4. It will be noted that there had been no previous case of measles in the room as far back as January 1, 1911.

[10]Developed measles February 28, 1912. Other cases of measles developed in this ward February 28 and March 12 and 15.

[11]Developed scarlet fever January 30, 1911. Other cases of scarlet fever developed in this ward January 24 and 29 and February 23.

[12]Developed measles March 12, 1912, at home one week after leaving hospital. There had been other cases of measles in the ward developing February 28 (2) and March 15.

[13]Developed chicken-pox September 18, 1912. Another child developed chicken-pox in the room across the corridor September 2. There had been no previous case of chicken-pox in the room since April 5-19, 1912.

[14]Developed scarlet fever February 23, 1911. Other cases developed in the same ward January 24, 29, and 30.

[15]Developed measles November 14, 1911. One of the six cases developing September 30, November 27 (2), November 30, and December 4.

[16]Developed scarlet fever March 12, 1912. There was scarlet fever under treatment in the ward at the time, and it will be noted that the next previous case in the room was June 17–July 13, 1911.

[17]Developed chicken-pox February 29, 1912. Active cases of chicken-pox were under treatment in the ward at the time. The next previous case of chicken-pox in this room was April 26 to June 5, 1911.

[18]Developed measles November 27, 1911. One of the six cases developing September 30, November 14, 27, and 30, and December 4. There had been no measles in this room as far back as January 1, 1911.

[19]This child is said to have had chicken-pox at home April 18, 1912. There was active chicken-pox in the ward when the child was discharged, April 17.

Chicken-pox	June 25–Aug. 1
Observation	Aug. 2–Aug. 3
Whooping-cough and vaginitis gonorrheal	Aug. 17–Sept. 12
Whooping-cough	Sept. 16–Sept. 25
Dermatitis scarlatinoides	Nov. 1–Nov. 25
Diphtheria	Dec. 12–Dec. 16
Bronchitis	Dec. 16–Dec. 27
Chicken-pox	Dec. 27 (1911)–Jan. 12 ('12)
Scarlet fever and chicken-pox	Jan. 13–Feb. 17
Whooping-cough and pneumonia	Feb. 19–Feb. 22
Diphtheria and chicken-pox	Feb. 23–March 14
Rubella	March 14–March 27
Measles	March 28–March 29
Cervical adenitis and chicken-pox	March 29–April 23
Measles	April 23–April 24
Measles and pneumonia	April 24–April 27
Whooping-cough	April 27–May 22
Chicken-pox	May 22–June 15
Diphtheria	June 16–July 10
Whooping-cough	July 10–Aug. 4
Scarlet fever and chicken-pox	Aug. 6–Aug. 31
Diphtheria	Sept. 11–Sept. 27
Measles	Oct. 10–Oct. 25
Scarlet fever	Nov. 2–Dec. 7

ROOM 20.

Scarlet fever	Jan. 22–Jan. 24 (1911)
Diphtheria	Jan. 26–March 11
Peritonsillar abscess	March 22–April 24
Tonsillitis	April 28–May 3
Rubella	May 6–May 7
Chronic otitis media	May 9–May 13
Whooping-cough	May 13–May 16
No diagnosis	May 27–June 3
Scarlet fever	June 13–July 19
Rubella	July 20–Aug. 2
Observation cholera (negative)	Aug. 2–Aug. 3
Measles	Sept. 20–Sept. 25
Scarlet fever	Oct. 11–Oct. 17
Gastro-enteritis[20]	Oct. 30–Dec. 28
Diphtheria and measles	Dec. 31 (1911)–Jan. 3 (1912)
Pneumococcus meningitis	Jan. 5–Jan. 5
Whooping-cough	Jan. 8–Jan. 23
Impetigo[21]	Jan 23–March 16
Measles	May 13–May 17
Measles	May 17–May 30
Broncho-pneumonia, rubella, and enteritis	May 30–June 1
Diphtheria	June 8–June 12
Scarlet fever and diphtheria carrier	June 13–July 13
Whooping-cough	July 13–July 27
Scarlet fever	July 27–July 27
Diphtheria	July 28–Aug. 31
Diphtheria	Oct. 18–Nov. 6
Scarlet fever	Nov. 13–Nov. 21
Observation	Nov. 21–Nov. 22
Septic sore throat	Nov. 22–Nov. 26
Measles	Nov. 28–Nov. 29
Measles and noma	Dec. 2–Dec. 18

CONCLUSIONS.

These facts relative to the disinfection of rooms and contents are presented in considerable detail, and will require careful reading in order to arrive at a just estimate of the value of the methods employed. When the word "ward" is used it refers to the whole floor of twelve rooms. It should be remembered that each room contains a single patient, and that all patients are kept apart and are cared for by aseptic nursing. We have never had a secondary disease develop among these patients when we had any reason to suspect that the infection was received from the room and have had every reason to believe that it was carried because of improper technic. We are fully convinced, from our experience, that fumigation is entirely unnecessary in hospital work, and that strict cleanliness, with especial attention directed to thorough sterilization of such articles as thermometers, pieces of waste gauze, or anything else soiled with secretions from the nose or throat of patients, is quite sufficient. The infecting material from the patient is not so widely distributed about the bed clothing and furniture of a room as is commonly supposed. It is only the things that are soiled with the infecting material that are particularly dangerous.

AMBULANCE DISINFECTION.

All the contagious diseases, including tuberculosis, since the opening of the hospital in March, 1910, have been brought either in an ambulance or in a closed coupe. It has been our practice to send the coupe whenever possible, because so many people object to the ambulance, and also because the coupe is a lighter vehicle and calls can thus be made more expeditiously. Children under 10 years of age and all patients who are not very sick are brought to the hospital in the coupe; all other cases come in the ambulance. The technic employed is as follows:

The driver and ambulance attendant wear washable coats and, if necessary, washable gloves, which are changed each trip. Fresh blankets and pillow slips are used on every trip. After being used, blankets, coats, gloves, and pillow slips are sent to the laundry. The ambulance attendant enters the house and fills out an ambulance card before he touches the patient or anything in the house. The ambulance card is placed in his pocket and is thus not infected. The patient, if a child, is wrapped in a blanket and taken to the ambulance or coupe, and, if the coupe is used, either sits or lies on the seat and remains thoroughly wrapped in the blanket until deposited in the proper admitting room. The driver and attendant wash their hands thoroughly between trips. The ambulance is practically always washed with soap and water between cases, but the coupe, while frequently washed, is not washed more than once a day if there are many calls.

From March 1, 1910, to February 1, 1912, the ambulance made 1,321 trips. Cases were brought in either vehicle, according to convenience and not according to disease. Since February 1, 1912, an accurate record has been kept as to whether the ambulance or the coupe was sent, and the following diseases, according to admission diagnosis, were brought to the hospital between February 1, 1912, and February 1, 1913:

Ambulance—Chicken-pox, 3; diphtheria, 81; measles, 20; mumps, 2; rubella, 2; scarlet fever, 70; tuberculosis, 28; variola, 4; whooping-cough, 5; other diseases, 4.

Coupe—Chicken-pox, 13; diphtheria, 248; measles, 76; mumps, 1; rubella, 8; scarlet fever, 207; tuberculosis, 35; variola, 3; whooping-cough, 16; other diseases, 4.

A careful consideration and discussion will be

[20] Developed measles December 4, 1911. One of the six cases developing September 30, November 4 and 27 (2), and November 30.

[21] Developed measles February 28, 1912. This is one of the four cases developing February 28 (2) and March 12. The patient also developed chicken-pox March 16, 1912. There were several active cases of chicken-pox under treatment in the ward, and it should be noted that there had been no previous case of chicken-pox in the room.

found below of every case of secondary infection occurring within the ordinary incubation period of the particular disease in question from the time of admission up to the time of the first symptom. The length of the incubation periods for the various diseases referred to is as follows: chicken-pox, 21 days; diphtheria, 7 days; measles, 14 days; mumps, 10 days; rubella, 21 days; scarlet fever, 7 days; whooping-cough, 21 days. All other secondary diseases arising among patients admitted have been considered as contracted in the hospital.

All secondary diseases occurring among admitted patients within the above limits will be taken up in two periods: first, those developing among the 1,321 patients admitted previously to February 1, 1912; and second, among the 842 patients admitted from that time to February 1, 1913. As stated above, our records during the first period do not show which vehicle (ambulance or coupe) was used in removing these patients to the hospital. The several cases will be treated in chronological order.

1910—On March 6 a child was admitted for measles and gonorrheal vaginitis. On March 20 she developed chicken-pox. There was a history of exposure to chicken-pox at home. This case was admitted within a few days of opening of hospital and no chicken-pox had ever been brought to the hospital in either vehicle previously.

On March 28, 1910, a girl aged 5 years was admitted to the hospital for scarlet fever. The diagnosis was doubtful. On April 13 she developed a rubella rash. The next previous case of rubella brought to the hospital was March 6. Another was brought in March 3. These were the only cases previously brought to the hospital.

On June 2, 1910, a child aged 4 years was admitted for diphtheria, with history of secondary illness. There was no vomiting, but marked angina, with membrane and cervical swelling. On June 8 the body was covered with an erythematous eruption, later followed by desquamation, evidently scarlet fever. Temperature was 102 degrees or more from time of admission. Final diagnosis, scarlet fever and diphtheria. The next previous case of scarlet fever brought to the hospital was May 27.

November 5, 1910, a child was admitted to the hospital for diphtheria from an infants' asylum. He had been in this asylum for three days only, and was apparently sick at time of admission to the asylum. The child was exceedingly ill with clinical diphtheria, and there was a rash about the lower part of the neck on admission. November 8, three days later, the child developed a well-defined scarlet fever erythema. Eventually died on the 25th. The next previous case of scarlet fever to be brought to the hospital was on November 4. Though we have no record, it is doubtful whether they came in the same vehicle, as the child brought to the hospital on the previous day was aged 12 years, and too large to be put upon the seat of the coupe.

The two last-mentioned cases may point to ambulance infection, but, in view of our subsequent experience, we are inclined to believe that they were probably infected with both scarlet fever and diphtheria before entrance to hospital.

1911—There were no cases that developed a secondary infection within an incubation period dated from the time of admission.

1912—On January 7, 1912, a child aged 6 years was admitted to hospital for scarlet fever and on January 12 developed chicken-pox. The chicken-pox obviously developed too soon to be explained by ambulance infection.

From February 1, 1912, to February 1, 1913, the following cases should be mentioned:

April 5, 1912, a child aged 10 years was admitted for scarlet fever. On April 19 she developed rubella at a time when there was no rubella in the ward. The next previous case of rubella was brought to the hospital March 31 and the next previous to that on March 18. Meanwhile ten other patients had been brought to the hospital, none of whom developed rubella.

June 11, 1912, a child aged 3 years was admitted for scarlet fever. He began to cough hard two weeks after admission to hospital; this later proved to be whooping-cough. A brother was admitted five days after his admission and had scarlet fever and whooping-cough on admission.

December 3, 1912, a child aged 5 years was admitted for diphtheria from an infant asylum where there were several cases of whooping-cough at the same time. Ten days later the child was coughing hard and a diagnosis of whooping-cough was made at that time. There is record that the child was coughing previous to the recognition of the disease.

In all, 2,163 patients have been brought to the hospital under the foregoing system and observing the same technic. We believe that our results go to show that it is entirely safe to bring various diseases to the hospital in the same vehicles, providing reasonable precautions are observed, and that fumigation of the ambulances is entirely unnecessary.

Dr. A. C. Foster, a practicing physician at Owensboro, Ky., and his brother, Dr. H. L. Foster, who has just left a professorship in the University of Oklahoma, will together erect and conduct a modern fire-proof sanatorium in Owensboro.

SOME SPECIAL FEATURES OF THE BARNES HOSPITAL, ST. LOUIS.

An Affiliation of a Hospital and a Medical School Under Unusual Conditions—An Example of Medical Cooperation.

By FRED. T. MURPHY, M. D., St. Louis.

FIGURE 1 shows the entire group of medical buildings which is now under construction in St. Louis on Kingshighway and Euclid avenue, facing Forest Park. It includes the Barnes Hospital, the St. Louis Children's Hospital, and the medical school, out-patient building, and power plant of Washington University.

Such a group of buildings, representing the interests of three boards of trustees, is unusual and may be considered as evidence of the most intelligent cooperation between institutions whose purpose is to care for sick people, to educate doctors, and to further medical science; aims so interdependent that no one of them can attain the highest development unless linked with the others. In this association the corporate entity of no institution has been sacrificed, but by a wise and friendly affiliation the actual management of various interests has been provided for in such a manner that the same results may be attained as if the control and administration were centralized in a single board.

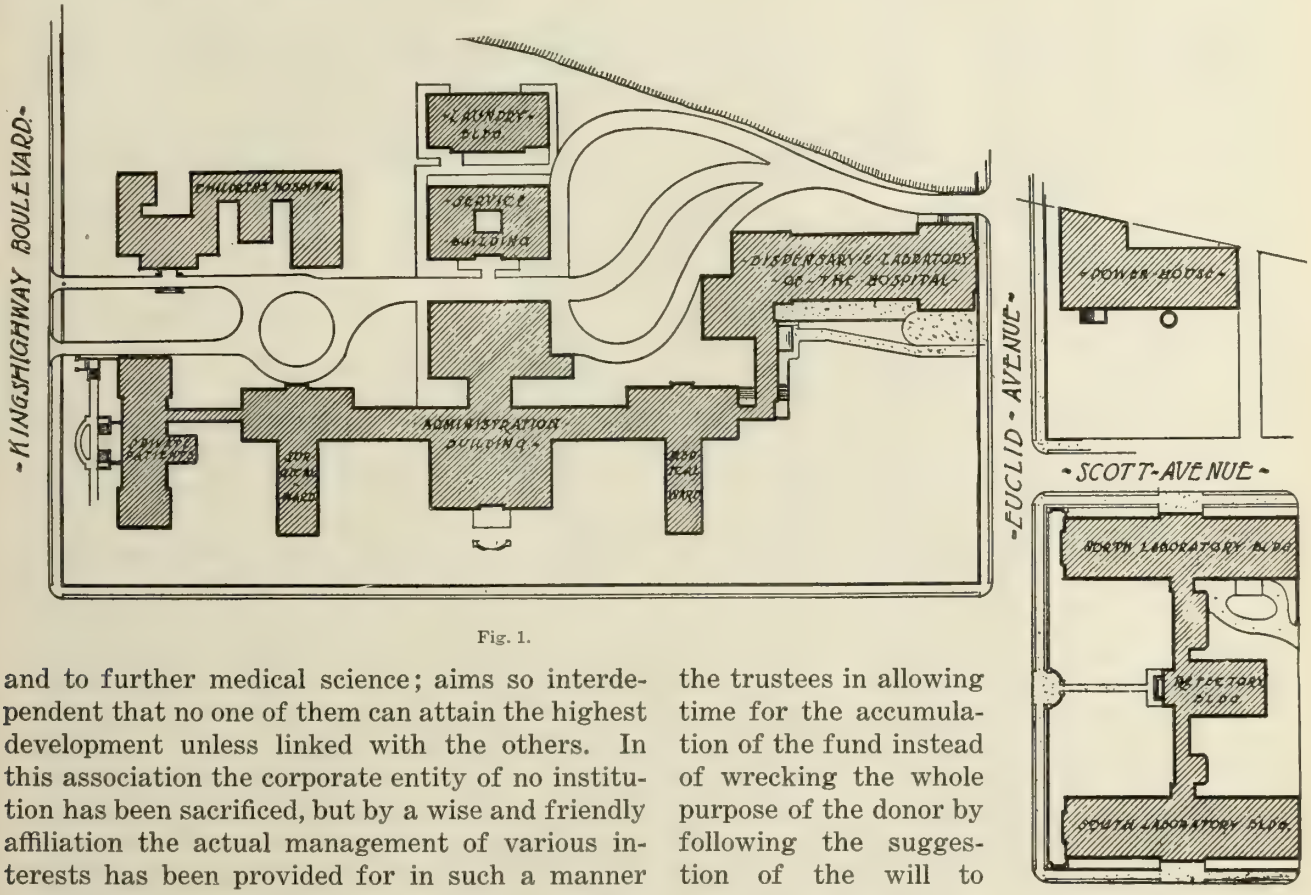


Fig. 1.

While some of the features of the Barnes Hospital alone are to be described in this article, this foreword of explanation has been given because of the far-reaching influence of this principle of affiliation between hospitals and medical schools, a principle which offers equal advantage to all concerned, but which in the past has been but rarely accepted and put into use, largely perhaps because of the difficulties caused by locations, but too often, I fear, because of the unwillingness of hospital boards to accept the incontrovertible fact that only by close association with an institution interested in medical teaching and research can they obtain the best service for their patients, and, on the other hand, failure on the part of the medical schools to acknowledge and rectify their shortcomings.

Another interesting feature in the development of the Barnes Hospital is the wisdom shown by the trustees in allowing time for the accumulation of the fund instead of wrecking the whole purpose of the donor by following the suggestion of the will to expend $100,000 in the erection and equipment of the hospital and to use the balance of the estate, some $840,000 for endowment. By this foresight it has been possible to erect the present hospital, fireproof and modern in equipment, at a cost of something over $1,000,000, and to leave in excess of $1,000,000 for endowment.

The Barnes Hospital, as is shown in the outline sketch (Fig. 1), consists of a central administration building, a medical unit, a surgical unit, a

private pavilion, a service building, and a laundry. Three full stories is the elevation, except in the laundry. All these buildings are connected by corridors both above and under ground. The general features of the construction are as follows: Fireproof construction has been used throughout. The external walls are of impervious, light-gray brick, trimmed with limestone. The floors are of marble tile or battleship linoleum laid on cement, with cement in the basement, and the interior walls are of tile, enameled brick, glass, or enameled plaster. All corners and angles are coved. The passenger and freight elevators are electric, with full automatic press button control. Natural ventilation is used except in special localities—such as specimen closets, where there is a forced draught, and all toilet rooms, which are ventilated by artificial draught through the water closet seat. Direct radiation from forced hot water is the system of heating employed, with the radiator loops 4 inches apart instead of 2 inches, to admit thorough cleaning. Ammonia brine supplies the refrigeration. Power, light, heat, and refrigeration are received from the central plant, the property of Washington University, which is located across Euclid avenue and beside the railroad track. The delivery of fuel is thereby materially simplified and cheapened, all coal and ash handling being done mechanically. All doors and corridors have been made of sufficient width so that a patient may be transported on a ward bed to any part of the hospital.

The telephone system is an intercommunicating one within the hospital, and this system may be used outside in connection with the local Kinloch line. Local and long distance Bell lines are installed in the main offices of the various departments. No vacuum cleaning system has been included in the equipment, it being felt that for such work as might demand this process a small portable machine, with an electric attachment, better meet the needs. The exact tint for the walls has not been decided upon, but will probably be a gray or a light green.

All general lighting of wards and single rooms is indirect, and at the head of each bed is a wall plug for a bedside lamp. The Bryant system of nurses' signals will be used, there being the usual arrangement of control whereby emergency calls may be given from the bedside. The nurse's signal can be turned off only at the bedside of the patient giving the signal, and all signals register in the head nurse's office as well as on the wall.

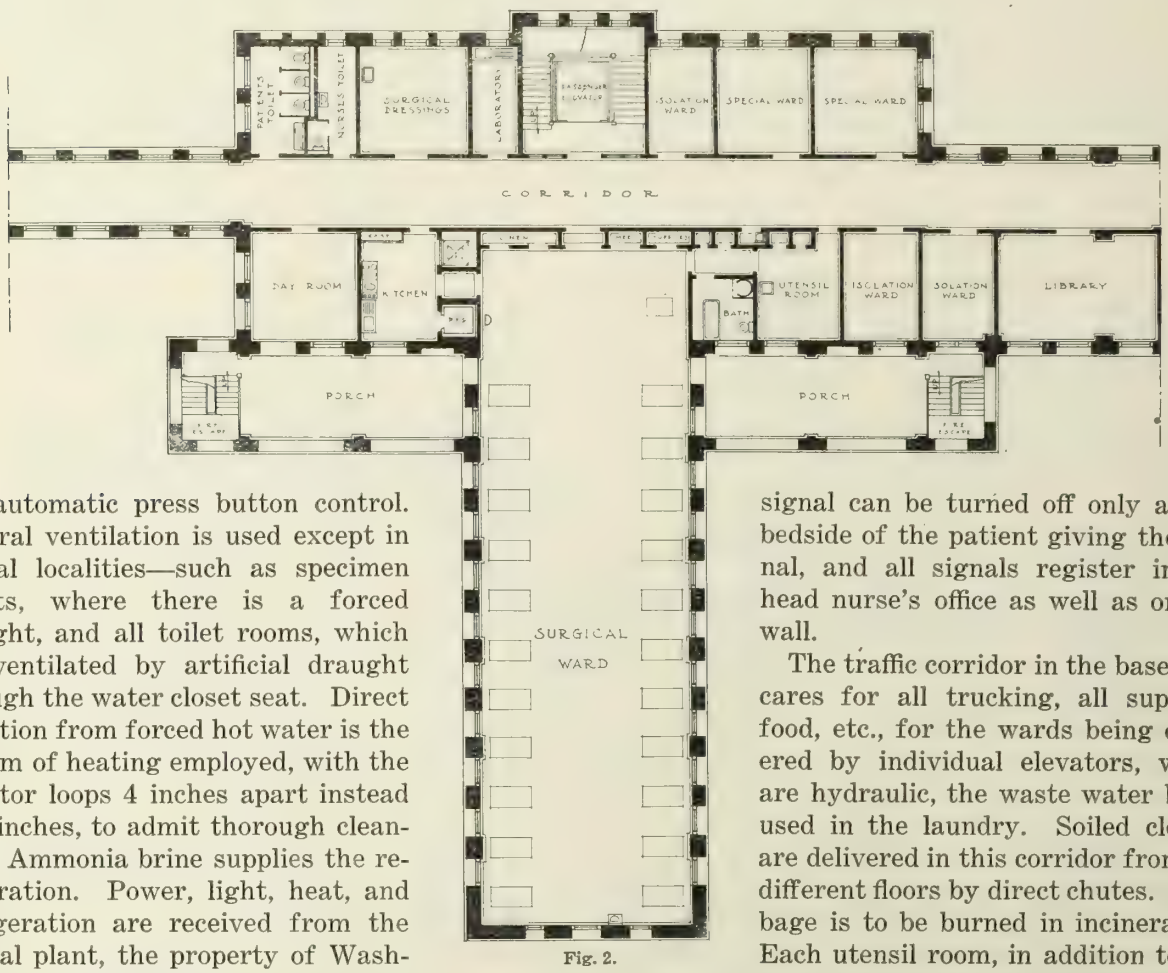


Fig. 2.

The traffic corridor in the basement cares for all trucking, all supplies, food, etc., for the wards being delivered by individual elevators, which are hydraulic, the waste water being used in the laundry. Soiled clothes are delivered in this corridor from the different floors by direct chutes. Garbage is to be burned in incinerators. Each utensil room, in addition to the usual apparatus, is equipped with a sterilizer for excreta.

The roof will be used for roof gardens and promenades.

Fig. 2 gives the outline of a typical ward, of which there are six—three medical and three surgical. The general arrangement on both services is the same. The general plan is that of the letter "T," with the outdoor porches arranged on either side parallel to the head of the "T." This form was adopted because it seemed to offer the maximum efficiency at a minimum effort on the part of the nurses and to utilize to the best advantage

the southern exposure facing on the city's beautiful Forest Park. In the head of the "T," at the north, are the utensil and service rooms, also the small isolation rooms, the laboratory, and general dining room for patients who are able to be up. The body of the "T" is thus retained completely for the ward, giving unobstructed sunlight on three sides, since the adjoining building is 100 feet away. Each floor will accommodate from 31 to 35 patients. In general, the porch to the west off the sitting room will be used for ambulatory cases, and that on the east for the patients who are taken out in their beds. The combined accommodation of these two porches will provide for all patients who may be able to be moved from the wards. At the head of the ward, near the head nurse's desk, are medicine closets, blanket warmers, and clothes chutes, which are built in the wall. The arrangement of the service room and the utensil room is such as to overcome the usual objectionable features due to the commingling of ward service and kitchen service.

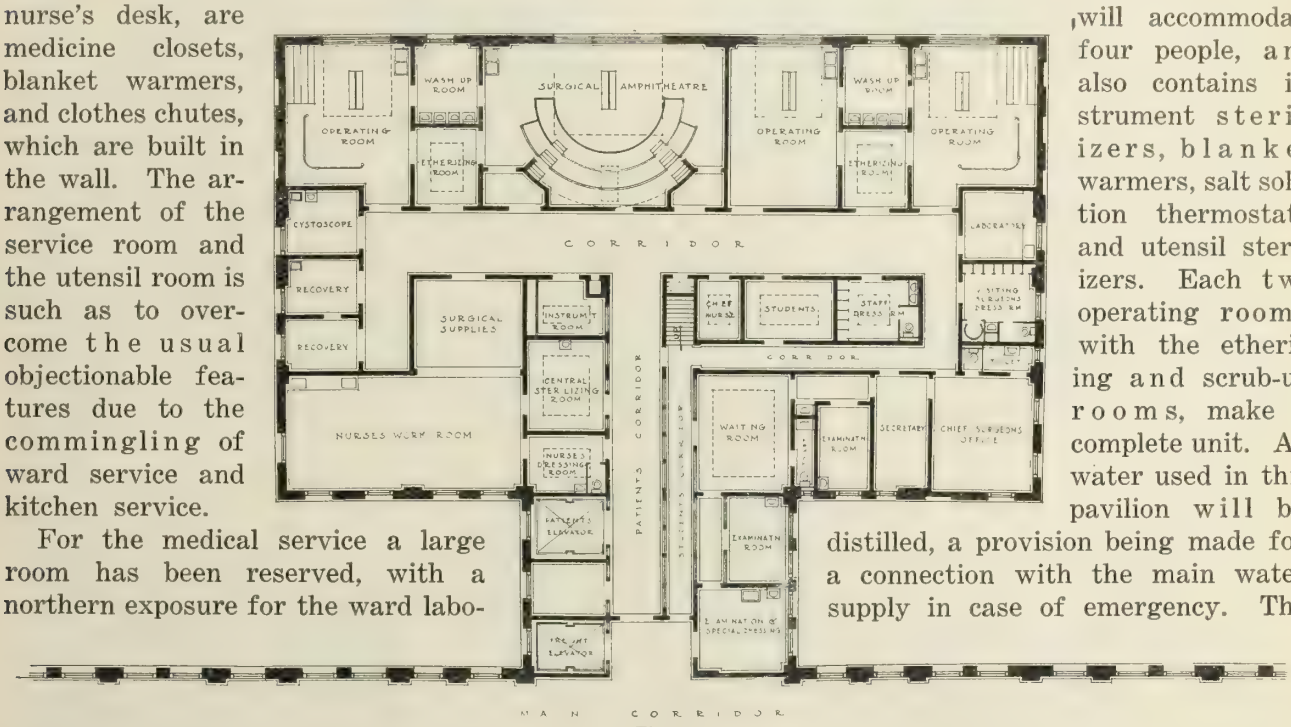


Fig. 3.

The scrub-up room will accommodate four people, and also contains instrument sterilizers, blanket warmers, salt solution thermostats, and utensil sterilizers. Each two operating rooms, with the etherizing and scrub-up rooms, make a complete unit. All water used in this pavilion will be distilled, a provision being made for a connection with the main water supply in case of emergency. The distillation plant is located in the half story above the operating floor. This plant will also supply distilled water to the emergency operating room in the accident ward on the first floor. The walls of the operating rooms are of Carrara glass up to the ceiling. Artificial lighting for the operating tables will be after the plan devised by Doctor Bartlett. The floors of the operating rooms are of marble Mosaic tile, with red Swanton marble center under the operating table, each having a large floor drain. The sterilizing room is equipped to do all the sterilizing for the hospital and out-patient department. In the larger operating room is a small amphitheater to accommodate sixty to seventy-five people, and this room will be equipped with a projectoscope for showing microscopic and gross specimens, and illuminators for x-ray plates. Movable iron stands will be used

For the medical service a large room has been reserved, with a northern exposure for the ward laboratory. For the surgical service the laboratory space has been reduced to the minimum, and a larger space reserved for a surgical dressing room, which will be equipped for minor surgical work. In the medical service all beds are provided with possible attachments to the elctrocardiograph, which will be located in the medical laboratory on the second floor of the out-patient building and connected with the ward by a direct telephone.

Fig. 3 gives the outline of the operating floor. This floor provides for four operating rooms, with northern exposure as well as overhead light, three of which have no permanent amphitheater seats; a cystoscopic room; two recovery rooms; a large work room for nurses; a sterlizing room; a nurses' dressing room, head nurse's room; instrument room; house staff room; visiting staff room, surgeon-in-chief's quarters; pathologic laboratory; and a suite of three rooms for the reception of the private patients of the staff. The general arrangement is such that the nurses have the western half of the pavilion and the doctors and students the eastern half. Entrance is through two corridors—the one for physicians and students, the other for patients and nurses. Patients are delivered into this closed corridor from a special elevator, and, except as they cross the main transverse corridor, they do not see either doctors or students. Spectators reach the amphitheater by a short flight of steps which leads from the entrance corridor over the main transverse corridor. Between each operating room is an etherizing room and a scrub-up room.

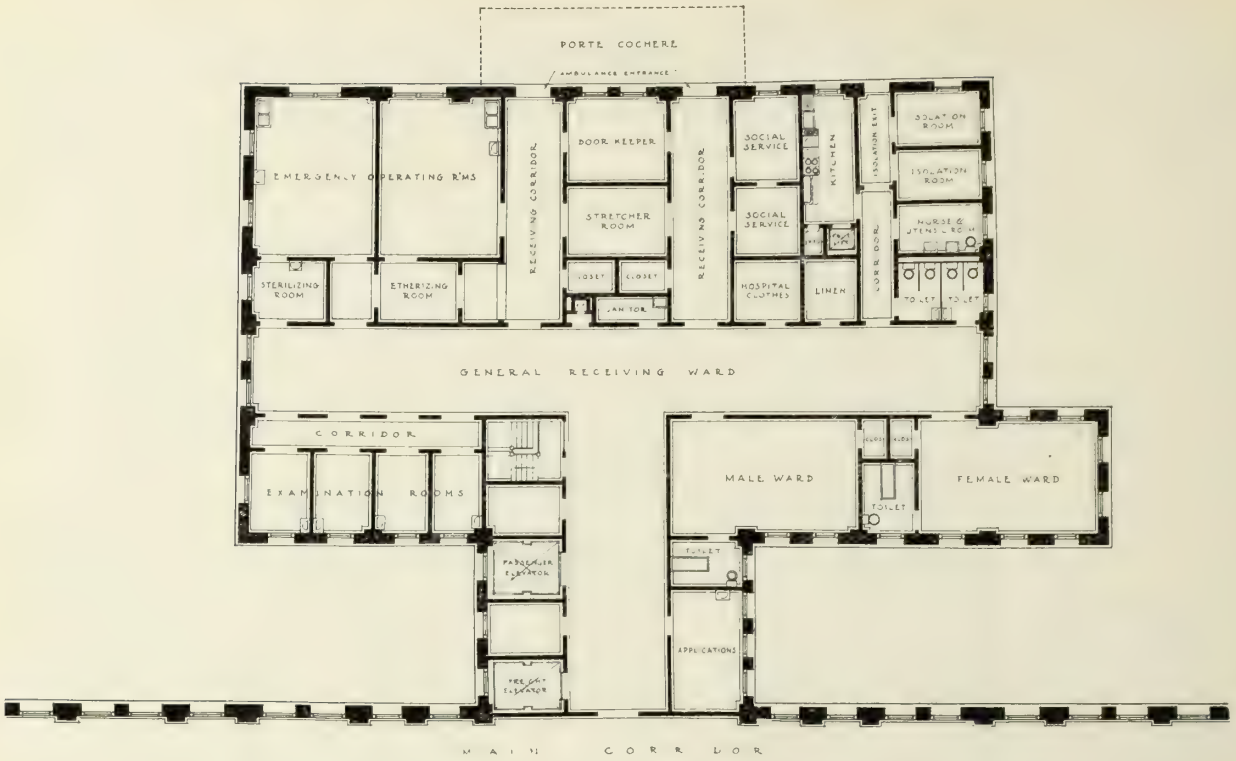


Fig. 4.

in the smaller rooms for spectators. All operating rooms and etherizing rooms are connected with the nitrous oxid generator, which is located in the cellar.

bers of the staff entering and leaving their dressing rooms must pass by the door.

The three examining rooms and the reception room for private patients have been made a part

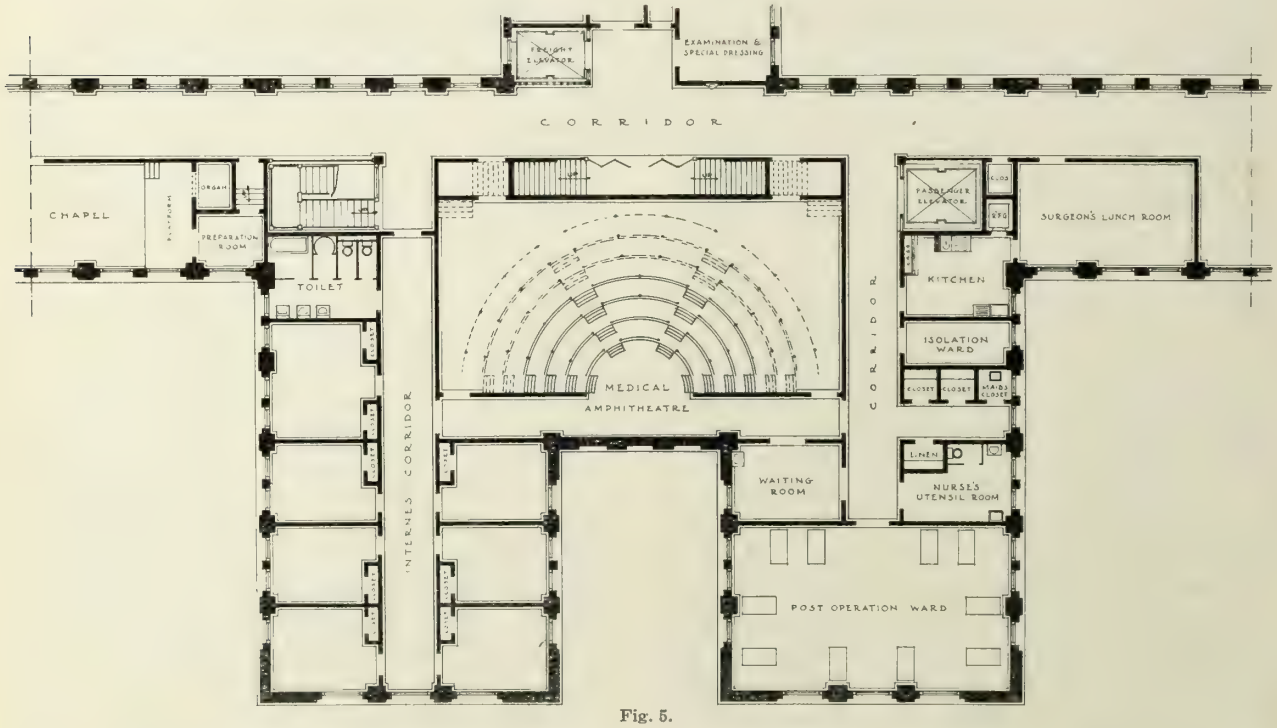


Fig. 5.

The pathologic laboratory is designed only for the examination of fresh specimens and frozen sections. It is located in such a way that members of the operating floor in order that the visiting staff may examine such patients with a minimum loss of time.

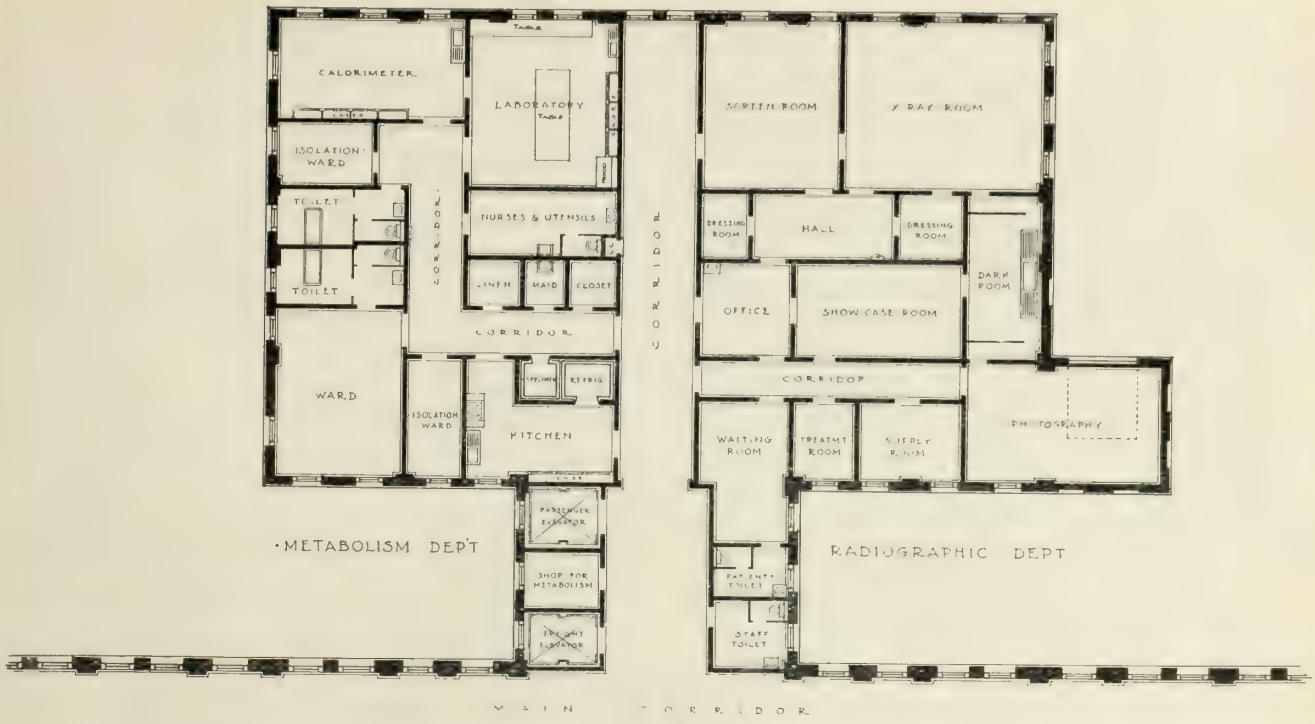


Fig. 6.

On the first floor of the service building, on the north side, are located the admitting ward and the accident room. The outline of this space is shown in Fig. 4. There is a receiving ward of five beds for males and a like ward for women; also isolation and examination rooms. It is expected that all patients will be detained here for a preliminary examination. They will be bathed and prepared for admission to the wards, their clothes being receipted for and sent to the basement, where they will be fumigated and stored.

The accident room provides for two operating rooms, an etherizing room, a small sterilizing room, and four examining rooms.

In the western operating room there will be a steam-heated shock table after the pattern of the one at the Massachusetts General Hospital.

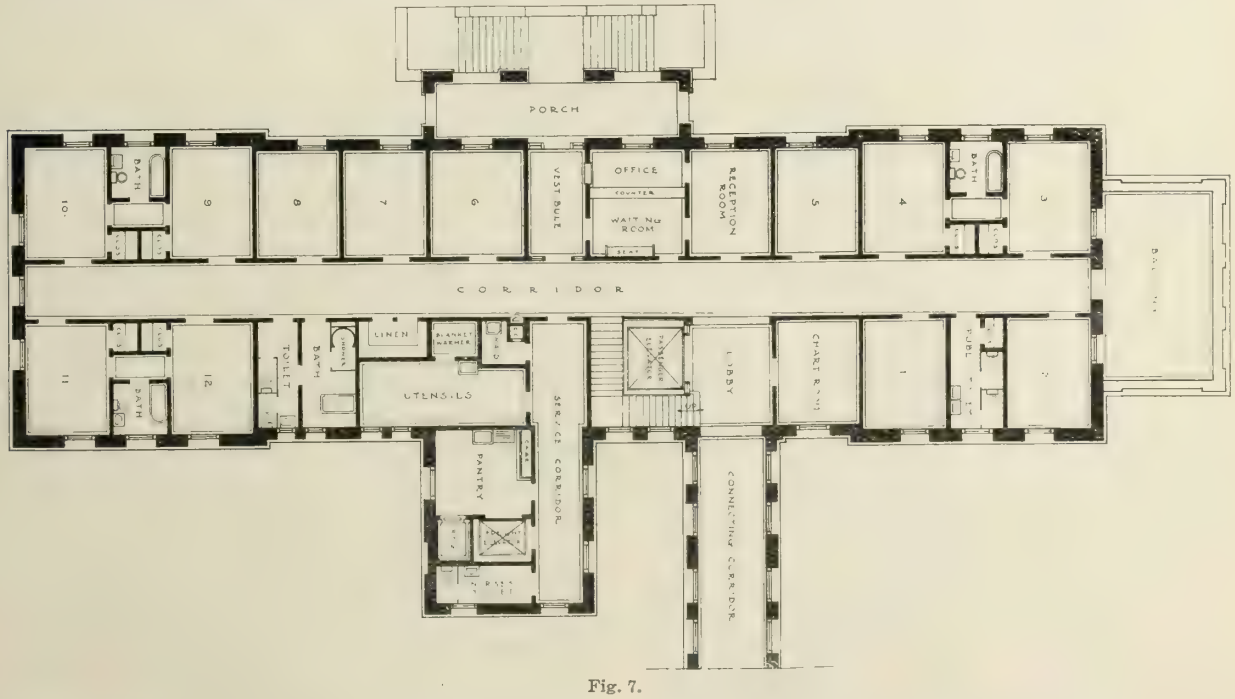


Fig. 7.

In the administration building, on the same level with the operating pavilion, is located the children's post-operative ward, which is illustrated in outline in Fig. 5. This provision for ten to twelve children during such periods as it may be neces-

sary to keep them after operation will afford ample space for the surgical work of the St. Louis Children's Hospital, that hospital being provided only with a small operating room for emergency and minor cases.

The outline of the small metabolism ward, occupying the west half of the second floor of the administration building, is shown in Fig. 6. This, with its special equipment, affords ideal conditions for such technical research.

The arrangement of the actinographic department, which is situated on the east half of the same floor as the metabolism ward, is shown in Fig. 6. By this arrangement of space the dark room is made accessible for photographic and x-ray work, and the treatment of patients in no way interferes with the routine.

On the third floor is the medical amphitheater, which has a seating capacity of 100, and is equipped with projection apparatus for purposes of demonstration.

Fig. 7 gives the outline of one of the three floors of the private pavilion. Here, as in the wards, the service has been centered in the less desirable portion of the building and the sweeping exposure toward the park reserved entirely for the rooms. At either end on each floor are rooms arranged so that they may be taken with private bath or en suite. The remaining rooms are separate and single.

The house staff are quartered in the upper floors of the administration building. They are provided with single bed rooms, a large sitting room and library, and a porch with southern exposure.

Ample space has been reserved in the basement of the administration building for hydrotherapeutic and mechanotherapeutic departments, but, as the arrangement presents no special feature, it has not been figured.

In the service building are the various kitchens, one general one for the private pavilion and one for the house staff and nurses; also separate dining rooms for the house staff, nurses, and employees.

Theodore C. Link & Son, of St. Louis, are the architects, and Dr. S. S. Goldwater, of New York, is the consulting specialist for the hospital.

THE GREAT NEED OF AMERICAN HOSPITALS—MORE AUTOPSIES.

If the Medical Profession Is to Profit by Experience, the Example of Europe Must Be Followed.

By THEODORE C. JANEWAY, M. D.

BARD PROFESSOR OF THE PRACTICE OF MEDICINE, COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, NEW YORK CITY; VISITING PHYSICIAN TO THE PRESBYTERIAN HOSPITAL, NEW YORK CITY.

AMERICA is preeminently a land of contrasts. No fact so forcibly impresses the visitor from abroad. Not only are wide differences in material prosperity and cultural development evident between the different sections of the country, dependent upon the persistence of frontier conditions in the most newly settled states, upon differences in race and in climate, but even the oldest parts of the United States possess populations so diversified as to make impossible any such uniformity of development as the European countries enjoy.

The hospitals of the United States have arisen to meet the needs of the sick of this strangely mixed population. Shelter, food, and nursing have of necessity been the first demand. The next in many cases has been for an environment in which the sick man might find himself at home and meet with the sympathy that he craves. In response to this very natural longing, hospitals have been built throughout the United States by religious denominations and by national groups, often with funds inadequate to provide more than the barest physical and spiritual necessities of the moment and without any resources for their equipment as scientific institutions. There exist in the United States few very large general hospitals, such as may be found in any foreign city, because of the widely different customs and prejudices of the people drawn from every corner of the globe and American as yet only in name.

During the last twenty-five years, however, the resources of the hospitals of the United States have increased enormously, both private and public. In the magnificence of operating rooms, in the general appointments of the wards, still more of the rooms for private patients, the character of the nursing, and the general hospital service, our better hospitals throughout the country leave little to be desired. In a few municipalities, as well, public hospitals are being developed which, in the magnitude of their plant and their facilities for the care of the sick, may rank with the best continental hospitals. Until very recently, however,

all this physical growth has been in striking contrast to the ideals and organization of the hospitals as institutions for the advancement of medical science. These have remained for the most part as they were in the days of the small beginnings of hospital development in this country. During the past few years, however, the influence of the Johns Hopkins Hospital—founded equally for the education of the physician and the advancement of medical knowledge, together with the care of the sick, and the observation by Americans of the work of the foreign hospital clinics—has made itself felt. Hospitals in the larger cities—slowly at first, now rapidly—are throwing open their doors for the education of students and physicians, and are reorganizing their medical staffs along lines which universal experience has shown necessary to administrative and educational efficiency and scientific productiveness. In many cases considerable sums of money have been given for the prosecution of scientific investigations. During the same time princely endowments have made research institutions of the first rank spring into being almost like magic.

Yet at one point, and that the pivotal point about which all the scientific activities of a hospital must revolve, progress has stopped and retrogression even has taken place. That point is the post-mortem room.

The systematic autopsy, as the means of detecting the seat of disease in the body and the character of the changes produced, began with Morgangi's life work, culminating in his famous publication in 1767. He first on a large scale arrived at a correct interpretation of the symptoms observed during life by tracing them to the lesions found after death. Until Morgangi's time ideas about the nature of disease were of the most visionary kind, and diagnosis consisted only in the recognition of certain well-defined types or symptom groups. Since Morgangi's time the whole development of medicine as a science and practical art has been bound up with the making of autopsies. Developing next in France under the great pathologist Bichat, the French physicians, especially the great Laënnec, developed the methods of physical diagnosis through constant comparison of signs they elicited during the patient's life and changes in heart or lungs which they discovered at the autopsy. They were indefatigable workers in the dead-house, and the vast material of the Paris hospitals made it possible for them in a few years to make the diagnosis of heart and lung diseases almost as accurate a branch of medical science as it is today.

In the middle of the last century the center of most active pathological investigation was transferred to Vienna, where Rokitansky performed an incredible number of autopsies. At once Vienna replaced Paris as a center for clinical study and for the advancement of clinical medicine, and Skoda perfected the methods originated by Laënnec. In England, during the same time, the great trio of Guy's Hospital physicians—Bright, Addison, and Hodgkin—made their names immortal in connection with the well-known diseases whose nature they laid bare at the post-mortem table. Stokes and Graves and Corrigan in Dublin were also making their great contributions to practical medicine. Then came Virchow, by his genius extending the scope of the autopsy to the microscopic investigation of the tissues, and revolutionized medicine by the cellular pathology which he thus founded. Virchow also perfected the technic of post-mortem examinations, both for scientific and for medico-legal purposes. Through his life work Germany gained the preeminence in medicine which she holds to this day. The pathological institute is an indispensable part of every German hospital, and its work is considered just as essential to the purpose of the hospital as is that of the physician in his wards or the surgeon in his operating room. No money is spared to make the equipment of the pathological institute, both for the conduct of routine autopsies and for teaching and research, as perfect as possible. The spirit of such an institute is well expressed in the Latin motto above the doors of Virchow's old institute in Berlin—*His est locus ubi mors gaudet succerere vitae.*

The rapid progress in medical knowledge which followed Virchow sent a wave of enthusiasm for the study of pathological anatomy around the world. In the late sixties the young men who were to be the leaders in American medicine in the next generation began to make systematic autopsies. In New York City Dr. Francis Delafield, Dr. J. W. Southack, and my father were appointed curators of Bellevue and Charity hospitals, and by 1870 a large number of autopsies were being performed. In the early days difficulties were often encountered, and at times my father met with threats of physical violence. But the enthusiasm of such men as these soon overcame all obstacles, and in our public hospitals autopsies on important cases were seldom lost.

The profession as a whole, however, was not educated along fundamental pathological lines, and outside of the large public hospitals little work was done. Gradually, however, the introduction of laboratory methods of diagnosis, the need for the microscopic diagnosis of diseased tissues removed at surgical operations, and the occasional autopsy led even the smaller private

hospital to appoint pathologists, whose work was largely confined to helping the clinician by the use of methods which the latter could not apply. The equipment of most pathological departments in American hospitals has been very meager, and to this day the making of autopsies and of investigations based thereon has, with few exceptions, constituted a small part of the work of such a department. In a few hospitals, such as the Boston City Hospital at one period of Dr. Mallory's work, a large number of autopsies made possible a real pathological institute in the German sense. For a few years, until it met with political obstacles, the Russell Sage Institute of Pathology, under Dr. Horst Oertel, was conducted along thoroughly continental lines at the City Hospital in New York. The new Bellevue Hospital in New York City now possesses a large pathological building fully equipped in every particular, and is prepared for the best sort of anatomical as well as chemical and bacteriological study, if it ever becomes possible to procure sufficient autopsies to afford material for investigation.

During this time the importance of the pathologist, both as teacher and as head of a department essential to a hospital, has become clear to all, and America has produced a few pathologists of the widest reputation. At the present time, however, because of the infrequency of autopsies in our hospitals, American pathologists are for the most part engaged in experimental work along other lines, and pathological anatomy is prosecuted to a surprisingly small extent as compared with other countries. This is the greatest detriment to the development of practical medicine in America. Just how serious the present situation is will be clear from a report on post-mortem examinations in the United States by the Public Health, Hospital, and Budget Committee of the New York Academy of Medicine.[1] The statistics were compiled by E. H. Lewinski-Corwin, Ph. D., executive secretary of the committee.

STATISTICS OF AUTOPSIES IN AMERICAN HOSPITALS
(exclusive of medico-legal cases)

Name of institution	Year	Number of deaths	Number of autopsies performed Total	Percent
Bellevue Hospital, New York, N. Y.	1910	2968	301	10.1
	1911	3035	354	11.6
	1912	2915	343	11.8
Presbyterian Hospital, New York, N. Y.	1910–1912	1146	281	24.5
New York Hospital, New York, N. Y.	1910	460	103	22.4
	1911	524	87	16.6
	1912	457	94	20.6
St. Luke's Hospital, New York, N. Y.	1910–1911	618	89	14.4
Mt. Sinai Hospital, New York, N. Y.	1910	719		
	1911	738	158	7.3
	1912	705		
House of Relief, New York, N. Y.	1910	230	36	15.6
	1911	184	57	30.9
	1912	206	74	35.9

[1]Jour. Am. Med. Assn., 1913, LV, 1784. The reader is urged to consult the full report. The historical study of the autopsy by Dr. Oertel, which forms part of it, demonstrates the necessity for systematic post-mortem examinations.

Name of institution	Year	Number of deaths	Number of autopsies performed Total	Percent
Massachusetts General Hospital, Boston, Mass.	1911	475	143	30.1
	1912	429	66	15.4
Boston City Hospital, Boston, Mass.	1910	1327	195	14.7
	1911	1483	113	7.6
	1912	1611	100	6.2
Louisville City Hospital, Louisville, Ky.	1910–1912	698	120	17.2
San Francisco City and County Hospital, San Francisco, Cal.	1910–1912	1486	670	45.1
University of California Medical School Hospital, San Francisco, Cal.	1910	66	18	27.3
	1911	51	22	43.1
	1912	37	21	56.8
New Haven Hospital, New Haven, Conn.	1910	254	37	14.6
	1911	235	16	6.8
	1912	269	23	8.5
Johns Hopkins Hospital, Baltimore, Md.	1910–1912	551	346	62.6
Jefferson Hospital, Philadelphia, Pa.	1910–1912	620	104	16.8
Buffalo General Hospital, Buffalo, N. Y.	1910–1912	896	117	13.1
Albany Hospital, Albany, N. Y.	1910	239	24	10.
	1911	268	22	8.2
	1912	272	13	4.8
Philadelphia General Hospital, Philadelphia, Pa.	1910	2122	324	15.3
	1911	2050	293	14.3
	1912	1749	196	11.2

STATISTICS OF AUTOPSIES IN FOREIGN HOSPITALS
(exclusive of medico-legal cases)

Montreal General Hospital, Montreal, Quebec, Canada	1908	292	235	80.4
	1909	294	229	77.9
	1910	272	235	86.4
Royal Victoria Hospital, Montreal, Quebec, Canada	1910	297	...	73.
	1911	267	...	62.
	1912	264	...	67.8
Toronto General Hospital, Toronto, Ontario, Canada.....Oct., 1911 to Sept.,	1912	321	82	26.3
University College Hospital, London, Eng.	1910	333	276	82.8
	1911	284	244	85.9
	1912	257	217	84.4
St. Thomas' Hospital, London, Eng.	1910	622	468	75.2
	1911	676	486	71.9
	1912	611	473	77.4
St. Bartholomew's Hospital, London, Eng.	1910–1912	2010	1597	79.4
Royal Infirmary, Edinburgh, Scotland.	1910–1912	2466	1453	58.9
Another large English hospital whose name cannot be divulged	1910–1912	4037	3378	83.7
Charite Hospital, Berlin, Germany[2]	1910	1588	1480	93.
	1911	1597	1472	92.
	1912	1527	1419	92.
Eppendorf Hospital, Hamburg, Germany[2]	1908	2322	2012	86.
	1909	2417	2181	90.
	1910	2487	2220	89.
St. Georg Hospital, Hamburg, Germany[2]	1908	1272	1129	88.
	1909	....	1218	....
	1910	....	1168	....
Pathological Institute, Leipzig, Germany.	1900	1082	1018	94.
	1901	1224	1139	93.
	1902	1246	1160	91.
	1903	1325	1213	91.
	1904	1385	1258	90.
	1905	1516	1352	89.
	1906	1562	1383	88.
	1907	1719	1531	89.
University Hospital, Breslau, Germany.	1905	....	487	90.7
	1907	....	534	91.9
	1908	....	570	93.4
Allerheiligen Hospital, Breslau, Germany.	1905	....	715	70.5
	1907	....	1038	87.6
	1908	....	1077	89.8
Allgemeines Krankenhaus, Vienna, Austria	1903	1950	1793	91.
	1904	1867	1866	99.9
	1905	1929	1875	97.
8 other hospitals in Vienna, Austria	1903	6690	5213	77.
	1904	6820	5517	80.
	1905	7364	5722	77.

Examination of these statistics reveals at once the immense difference in the frequency with which autopsies are performed in the hospitals of this country as compared with foreign hospitals. This difference is not only relative, but absolute. The

[2]The remaining percent includes not only refusals, but legal cases.

great majority of European hospitals surpass in size all but our very largest municipal institutions, so that the total number of post-mortem examinations in many of them is between 1,000 and 2,000 a year, whereas the largest number in any institution in the United States during the past three years was 354 in Bellevue Hospital. The total experience, therefore, both for the pathologists and for the physicians of our hospitals is at best exceedingly small as compared with the experience which can be gained during a corresponding time in Europe. Still more serious is this for the medical student. Whether a medical school be large or small, it must endeavor to teach all that is important in medicine. A small school connected with a small hospital is not able, because of its smallness, to teach its students pathological anatomy and clinical medicine from a small number of autopsies. It is essential that the students should see examples of all the more important pathological lesions, and for this purpose a long series of autopsies is needed. For ward teaching a smaller number of illustrative cases, well studied, may compensate somewhat for the lack of a large and varied clinical material. But proper instruction in pathology is only possible where a large autopsy material is available. The result is clearly seen in the United States. Medical men come into contact so little with autopsies as students that they have not even been convinced of their importance, and the indifference of the rank and file of the medical profession toward the performance of autopsies is, in my opinion, one of the chief obstacles to the obtaining of autopsies in our hospitals. This makes a vicious circle.

If the total number of deaths in our comparatively small hospitals limits the amount of available material for pathological study, how much more important is it that examinations be conducted in the case of all who die. Yet, when the figures are compared, it will be seen that, with a few notable exceptions, autopsies have been performed during the last three years on from 4.8 to 24.5 percent of the dead in most of our institutions. These exceptions are the Johns Hopkins Hospital, with a percentage of 62.6; the two San Francisco hospitals, and the House of Relief in New York, a small institution for the care of advanced tuberculosis. Particularly notable is the very small percentage of autopsies in the large municipal hospitals, where formerly post-mortems were done with the most frequency and where they should be obtained with the greatest ease because of the character of the patients. Still more alarming is the decrease in the number and percentage of the autopsies during the last three years in the case of some of the best known of these institutions, notably the Boston City Hospital, where the percentage has fallen from 14.7 to 6.2, and the great Philadelphia General Hospital, where the decline has been from 15.3 to 11.2. The same tendency is seen in smaller hospitals in New Haven and Albany. In Germany and Austria, on the other hand, the figures run from 77 to 99.9 percent, and in England from 71.9 to 85.9. The most striking contrast, however, is afforded by merely crossing our northern border. The two great hospitals of Montreal have averaged from 62 to 86.4 percent of autopsies. On the other hand, Toronto shows but 26.3 percent, a figure comparable with those in the private hospitals of the United States. Wherein lies the explanation?

These figures have been very carefully studied by the committee of the New York Academy of Medicine above mentioned, of which I am a member. The conclusions arrived at were that five causes may be assigned for the very poor record of our hospitals in this matter—first, adverse public opinion and prejudices; second, the existing law, particularly of New York state; third, the adverse interests of undertakers and burial societies; fourth, hospital rules; fifth, claims of the departments of anatomy in our medical colleges.

The importance of adverse public opinion is probably most clearly seen in contrasting the high percentage of autopsies at the Johns Hopkins Hospital with the low percentage at similar institutions in New York and Boston. While differences in the law account for some of the discrepancies, the main reason that can be assigned for the success of the Johns Hopkins Hospital in obtaining autopsies is that they have attempted to obtain autopsies systematically for so many years that they have educated their community to an appreciation of their value. Wherever adverse public opinion exists, the only means of overcoming it lies in education by the medical profession and the hospitals. The population of this country, where foreign-born, is recruited from lands where it is taken for granted that an autopsy will be performed upon every patient who dies in a hospital. I believe that the medical profession of this country is largely responsible for the growth of this prejudice against autopsies; that, had American physicians for the last fifty years, in hospital and private practice alike, insisted upon the importance of an autopsy in every death occurring in their practice, post-mortems in the United States would now be about as frequent as they are in London.

There are signs of increasing activity in the profession in this respect, which permits of the hope that this disgrace of American medicine may

before long be a thing of the past. Such a demonstration of the inaccuracy of diagnosis as was published by Cabot[3] reaches a far wider public than the subscribers of the *Journal of the American Medical Association.* The American people as a whole are beginning to learn that their physicians do not possess infallibility. They are finding that Cabot's studies of 3,000 autopsies in the Massachusetts General Hospital showed that, while the best physicians in the country might make a diagnosis of diabetes and of typhoid fever correctly oftener than nine out of ten times, these same physicians failed to recognize abscess of the liver and acute pericarditis eight times out of ten, and that even such severe diseases as acute tuberculosis and aneurysm of the aorta were about as often overlooked as discovered during life. Patients, therefore, begin to ask themselves in what proportion of cases do ordinary practitioners without hospital experience recognize the disease they are treating, and, if not recognized, what does this mean for the efficacy of their treatment. We must all recognize the extreme complexity of the human machine when it gets out of order, and that absolutely correct diagnosis is not to be looked for. But is it not evident that the public will soon appreciate that, without the control and constant education of the autopsy, their physicians will speedily fail to recognize their own limitations, and that without opportunity to learn from their mistakes there can be no right progress? It is the duty of every American physician and every American hospital to see to it that these facts become known.

Pressure is likely to come also from the public in its corporate capacity as state or municipality because of the revelation which these things make of the senseless inaccuracy of American mortality statistics and everything that is based upon them. In particular, the life insurance companies are interested in this matter. The *American Underwriter* for May[4] contains a study of this problem by Dr. Oertel, with five pages of editorial comment, evincing a very lively practical interest in autopsies as the only adequate basis for accurate vital statistics. Dr. Oertel recently studied the autopsy records of a large public hospital with reference to the correctness of clinical diagnoses in 390 cases, with the following results:

	Cases.	Percent.
1. Clinical diagnosis confirmed	87	22.3
2. Clinica' diagnosis correct, but autopsy disclosed important additional lesions. (Example—lobar pneumonia diagnosed correctly, but autopsy showed cancer of uterus in addition)	116	29.7
3. Clinical diagnosis partly correct, but other important lesions that had contributed to the diagnosed lesion were found. (Example—acute peritonitis diagnosed correctly, and autopsy showed a perforated gastric ulcer)	54	13.8
4. Clinical diagnosis not confirmed	109	27.9
5. No clinical diagnosis	24	6.2
	390	99.9

[3]Cabot: Diagnostic Pitfalls.—Jour. Am. Med. Assn., 1912, LIX, 2295.
[4]The American Underwriter, 1913, XXXIX, No. 5.

Consider that only in 87 cases out of these 390 did the autopsy fail to reveal important lesions not recognized during life! Consider further that in that same hospital nearly 2,700 other patients died and were buried in 1912 without autopsy; that both the rules of the hospital and of the Health Department required that an absolute diagnosis be written on the death certificate by the house physician, whether any diagnosis was possible during life or not; that our vital statistics in New York City are based upon these diagnoses and such as are made by private physicians, which are not likely to be more accurate than hospital diagnoses, and a statement of Professor Bashford in a recent lecture will not seem wholly fanciful—"The vital statistics of Ceylon are more reliable than those of New York."

Perhaps another reason for the disrepute of autopsies in this country has been the character of public officials charged with the duty of inquest in suspected criminal cases. In all foreign countries legal medicine is a branch of scientific medicine, and medico-legal autopsies are conducted by university professors of learning and experience. In this country these matters are in the hands, for the most part, of coroners and their appointees, the coroners themselves being usually politicians, rarely with even the pretense of a medical education. They are dreaded by families with whom they are brought into official contact. In addition, in New York City, at least, they have in the past frequently interferred with the performance of autopsies in private hospitals and have led to an unwillingness on the part of managers of hospitals to permit autopsies except in accordance with the strictest interpretation of a confused and often unintelligible law. The reform of medico-legal autopsies should be an essential part of any program for the promotion of pathological anatomy in the United States.

The laws relating to the performance of autopsies are a much more serious hindrance in some states than in others. They are especiallly troublesome in New York state. The great contrast between the laws in this country and the British or foreign enactments lies in the assumption, under the American laws, of property in a dead body and the possibility under them of action to recover damages for injury to the feelings and mental suffering by relatives of the deceased on account of the performance of an autopsy. The discussion of the legal side of the question would go beyond the possible limits of this article, but the requirement of written consent, and the occasional recovery of damages from boards of managers of private hospitals because of the performance of autopsies, have been the chief reasons, in

New York City, at any rate, for the decrease in autopsies in recent years. In England such law suits are practically unknown, and autopsies are regularly performed unless forbidden by the relatives. The same holds good in the province of Quebec, and explains the large percentage of autopsies in the Montreal hospitals. On the continent a post-mortem is always undertaken unless there is express prohibition by the family. The amendment of inadequate and antiquated laws in this country is a necessary step toward securing more frequent autopsies. Wherever attempted, it must be borne in mind that the present laws were passed before the growth of modern pathology, and did not recognize the difference between the use of the cadaver for anatomical dissection and the instruction of students therein on the one hand, and an autopsy for the discovery of disease on the other. This distinction should be made clear in our legal enactments.

Undertakers and burial societies are certainly much more active in this country than elsewhere in the world. The latter frequently prevent autopsies because of religious prejudices, and operate to prevent the use of the bodies of a certain number of the unclaimed dead in our public hospitals from serving the needs of science. The opposition of undertakers is a matter of importance to the hospitals. An opportunity has recently been afforded in New York to discover some of the causes for this opposition. Professor MacCallum, Professor Ewing, Dr. Bovaird, and myself were permitted to address a meeting of the New York City Undertakers' Association on the subject of the importance of post-mortem examinations and to hear from them their views on the same subject.[5] They have certain definite grievances against the hospitals in this connection which are deserving of careful consideration by superintendents, physicians, and pathologists. The length of time they or their assistants are kept waiting for the bodies and the treatment that they frequently receive at the hospital office are legitimate causes of complaint. Collusion between subordinate employees of the hospitals and certain undertakers in the attempt to divert business to them is another. Criticism of unnecessary mutilation by inexperienced pathological assistants was freely expressed. This is a matter for serious consideration by directors of pathological departments. Professor Chiari, of Strassburg, in a lecture before the Harvey Society in 1910[6] said, "Naturally the autopsies must be done with the strictest adherence to the principles of humanity, with careful consideration for the wishes of the relatives, and the greatest precautions to avoid any mutilation of the body. To this end pathology has at its disposal a well-developed technic which is constantly being improved."

House physicians frequently like to show their authority by holding up death certificates in a quite unnecessary way, and a little friendly cooperation on the part of all concerned, administrative force and physicians alike, might succeed in obtaining the very valuable cooperation of the undertaker in securing the right to perform autopsies.

The greatest difficulty, however, is connected with embalming. In this country, for reasons which it is unnecessary to discuss, embalming of the body is becoming customary even among the poor. This, I believe, is not at all the case in other lands. A thorough autopsy makes embalming a very difficult task, and removal of the brain makes it practically impossible. It seems possible that by consultation with undertakers a method of preserving the arteries necessary to the embalmer might be worked out and yet a complete autopsy performed. This would go further than anything in securing the undertakers as allies.

Hospital rules dealing with this matter are merely the expression of the mental attitude of hospital authorities toward the scientific work of their institutions. The point of view of the hospital managers is the resultant of the purposes and ideals of the original founders, modified by the experience of their successors with their medical staffs. Hospitals organized primarily as denominational charities rarely start with any appreciation of the importance of scientific training for their physicians. Too frequently in the past they have even looked on it as antagonistic to the humane impulse, which is their first requirement. As a result they seldom choose members of their medical staffs because of their scientific productivity, but for their race, their religion, their social or political influence, or, at the best, their reputation as successful practitioners. Such a process of selection, in its turn, deprives the managers of the opportunity of becoming educated scientifically by the physicians with whom they work. Hospital physicians of this type only exceptionally develop keen scientific enthusiam, and, to their shame be it said, have even been known to dislike autopsies on their patients because of the unpleasant revelation of their own mistakes.

In hospitals of this type, and there are still many of them in the United States, progress is slow, and depends upon the influence of the pathologist, or of some single medical man or manager

[5] A stenographic report of this meeting was published in the Director, Tribune Building, N. Y., May, 1913, V, No. 5.

[6] Harvey Lectures, 1910–1911, J. B. Lippincott, Phila., p. 16.

of broader outlook than his fellows. The only remedy lies in the education of succeeding generations of medical students to a better appreciation of the fundamental importance of pathological anatomy and to a love of the truth above all success, and of hospital boards to a realization that only scientific enthusiasm, which is another name for the thirst for knowledge in a particular field, can insure hospital physicians whose efficiency and devotion will grow with the years. To build a hospital without such physicians is to make bricks without straw.

In municipal hospitals growth along scientific lines is subject to great setbacks. The whole policy of these institutions may change with each political overturn in the city, and all that has been gained from past experience may be lost. Were the medical staffs of these hospitals united in their devotion to high scientific ideals, the effect of such political accidents could be minimized. Unfortunately a process of selection for political reasons does not result in staffs with such ideals, and the progress achieved by the few will always be endangered by those whose loyalty is political and not medical. If the worst results of party politics and boss rule can be seen in some of America's largest hospitals, so the worst side of the American medical profession will be seen cooperating to produce these results. Complete dissociation of hospital administration from politics and the elimination of the political doctor are tasks for the American people and the American medical profession to set about earnestly.

Only a single American hospital requires signed consent for an autopsy from the nearest relative before admission of the patient. No other procedure under our present laws can accomplish the desired result in every case. At the other end of the scale stand the hospitals whose administrative departments are openly or secretly antagonistic to the securing of post-mortems. In one hospital in New York city members of the staff are not allowed to interview patients, or relatives after death, and an autopsy is secured only through the mediation of the clerks. The percentage for that hospital shows quite clearly that this method does not contribute toward frequent autopsies. Where the hospital superintendent or his assistant is a medical man, conditions are usually better. There is no question of the assistance that can be rendered by hospital offices in this respect. Where the office fails to secure the necessary consent, I believe that the interested members of the staff should be called upon to interview the relatives before they leave the hospital. Unfortunately, in our large cities relatives frequently do not come to the hospital, but send the undertaker, and the difficulties are thus increased. Even under our present laws, however, a group of medical men scientifically keen, enthusiastic for getting as many autopsies as possible, and invariably courteous and considerate to patients and their relatives, can with the cooperation of the hospital superintendent obtain a very considerable number of autopsies.

If it were possible for all of the larger hospitals of the United States to agree upon a certain date that signed consent to an autopsy in case of death should be made a condition for the admission of patients, the problem of autopsies in hospitals would be solved. No hospital can do this single-handed, but I believe that a considerable group of hospitals could accomplish it without disturbance. I would urge this on the careful consideration of superintendents and boards of managers.

The conflicting claims of the departments of anatomy need not concern hospitals, though they do universities. I believe that a proper law regulating the disposal of dead bodies would afford abundant material for anatomical study without denying the legitimate claim of the hospitals that the careful study of patients in their wards shall not be allowed to go for nothing because of the failure to obtain an autopsy. At the present time in New York state all bodies of the unclaimed dead go to the departments of anatomy, and autopsy is not permitted upon them. It sometimes results that a patient on whom the most elaborate studies have been conducted for weeks, or even for years, dies, and his body becomes ordinary dissecting room material, while knowledge of cerebral localization or some other information of great moment, which could be afforded only by the completion of the record by post-mortem examination, is altogether lost. So far as real usefulness is concerned, this is about as justifiable economically as casting pearls before swine.

I know of no factor at the moment which operates so strongly to discourage careful clinical investigation in the wards of our hospitals as the probability that for three-quarters of the patients studied the results will be lost in the case of death by failure to secure an autopsy. The advance of medicine today is increasing along the lines of study of the early stages of the chronic diseases in the attempt to trace causes and to achieve means of prevention or arrest of these diseases in their incipiency. For the success of such studies it is essential that they be prosecuted over long periods and that the final test of the autopsy be afforded. It is not without significance that the amount of such investigation now being carried on in American hospitals is so small as compared with the activities in this direction abroad. The

difference is about proportioned to the difference in the frequency of autopsy, and, while perhaps the latter does not explain the former wholly, it is responsible to a much larger extent than is generally appreciated. Beyond this, both facts are traceable to a common cause—the as yet undeveloped state of medical science in America.

The United States has not an independent school of medicine, but must take much from Europe. Especially in pathological anatomy our profession must be a recipient and not a giver, a learner and not a teacher. Until the opportunity for pathological research in America becomes equal to that in Europe, through freedom in the performance of autopsies, so long will American medicine follow and not lead, and this opportunity must come to American medicine through the American hospitals.

BOSTON NEW CHILDREN'S HOSPITAL HAS NOVEL FEATURES.

Air, Sunshine, and Limitation of Infections Are Chief Factors—Designed After the Indian's Tepee—Administrative Economy Sought.

By A MEMBER OF THE EXECUTIVE COMMITTEE OF THE HOSPITAL.

IN planning for the new Boston Children's Hospital three things were kept constantly in mind—(1) fresh air, (2) sunshine, and (3) the limitation of contagious disease.

1. *Fresh Air.*—No artificial system of ventilation for the wards seemed satisfactory. None takes the place of open windows, and ordinary windows, even when freely opened, do not ventilate perfectly because of the more or less dead air at the top of the room. The Indian tepee is ventilated satisfactorily by the hole at the top, and the monitor roof is an adaptation of the same principle, though the corners and angles between the roof and the side walls may, especially if the slope of the roof be slight, hinder somewhat the absolutely free passage of air upward, such as is possible in the cone-shaped tepee. The ground space, however, did not permit of a sufficient number of one-story pavilions, and therefore one monitor roof pavilion was superimposed upon another. This plan had originally been devised at the Massachusetts Hospital School in Canton by Dr. Bradford, Dr. Fish, and the architect, Mr. Mead.

The accompanying sketch shows a cross section of the two-story pavilions. The ventilation of the lower story is practically as free as of the upper. A coarse lattice covers over the space between the roof of the first story and the floor of the second. The exposed portions of the floor of the second story are thick and are insulated sufficiently to keep the floor warm.

With this thorough ventilation of the wards no special consideration has been devoted to cubic air space. On the front of the building sliding doors allow the beds to be wheeled out freely on to the piazza, and at the end of each ward is a solarium which can be freely opened, and into which the beds may be pushed.

2. *Sunshine.*—The problem in winter is entirely different from the problem in summer. In summer the sun runs high and does not at midday enter the wards to any extent. It is essential in summer that the piazzas should be in part shaded from the sun. In winter the sun runs low, and it is desirable that it should enter the wards through the windows. In order to allow the sunlight to enter the wards, and to give better air

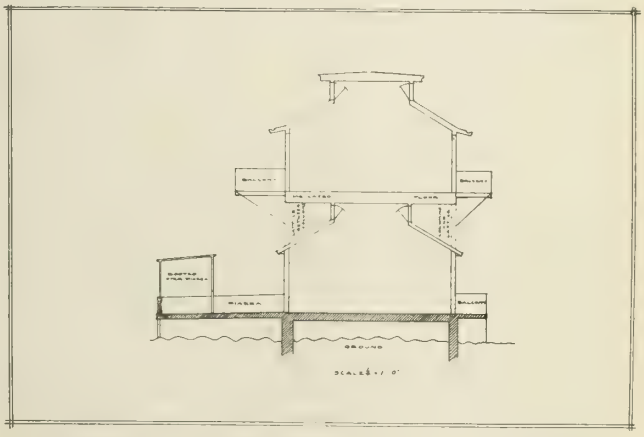


PLATE 1. CROSS SECTION OF A TWO-STORY PAVILION.
The superimposed monitor roofs are shown. The upper pavilion is supported on columns, between which are placed coarse lattices. The roof over the outer part of the piazza is shown.

and light in the wards, the roofed-over portion of the piazza has been placed at the outer edge rather than next to the building. In this way in the winter there is no interference with the entrance of sunlight and air into the wards. A portion of the piazza is shaded in summer. The piazza on the second story is not as wide as on the first, and has no permanent roof. When shade is necessary for the second-story balconies, awnings must be depended on, or the solarium may be used.

3. *Limitation of Contagious Disease.*—The word "limitation" rather than prevention is used

intentionally. The contagious diseases which have to be guarded against are diphtheria, scarlet fever, measles, whooping-cough, chicken-pox, and vaginitis. Diphtheria is now the least dreaded of all. It is practically absolutely controlled by immunizing doses of antitoxin given every child as a matter of routine at stated intervals. Vaginitis

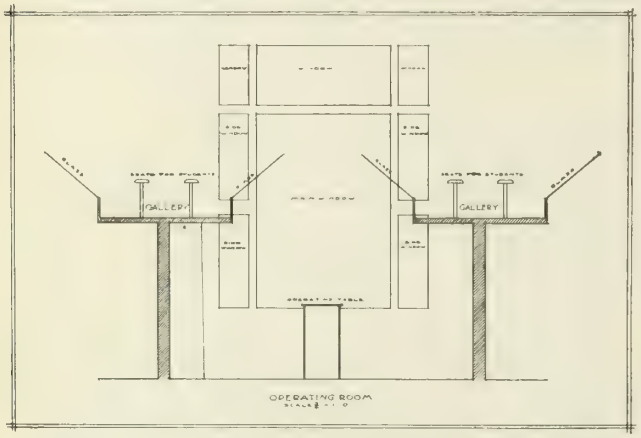


PLATE 2. CROSS SECTION OF THE MIDDLE OF THREE ADJOINING OPERATING ROOMS.

The low galleries almost overhanging the operating table and screened by plate glass are shown. The seats will each accommodate six students. More may stand behind the seats. Thus from the two sides as many as twenty-five or thirty may have a good and near view of the operating field.

is controlled by rigid isolation, and by the utmost care that everything which comes in contact with the patient shall be absolutely sterilized. Bed pans, thermometers, napkins, and nurses' hands are the ordinary ways in which vaginitis is spread.

On account of the long incubation period of some of the other contagious diseases, all thought of having a probation ward was abandoned. Many patients do not stay as long in the hospital as the probationary period. The division of the ward into cubicles of glass or other material was considered, but did not seem advisable where common piazzas and a common solarium would be in constant use. The other alternative, which was adopted, was limiting the number of patients in a ward to ten—thus, if contagious disease breaks out in any ward, at the most only nine other children can possibly be infected. That ward can be placed in quarantine and the children discharged as soon as possible. The danger to individual patients and the interference with the work of the hospital are minimized. Adjoining each ward is an isolation room, to which any patient presenting the slightest suspicious symptoms may be at once transferred. To facilitate the administration of these small wards, the pavilions are so arranged that one head nurse and one night nurse can be responsible for two wards.

The accompanying ground plan shows how the head nurse may from her desk between the two wards look into the kitchen, into the isolation room, may see every bed in each of the wards, may see the solarium and the piazzas, thus having under her eye two entire wards.

The administrative part of the hospital, the nurses' home, and the out-patient department are in one large building, with three wings. The patients coming for admission to the hospital enter by the central door at the street level. They pass into reception rooms, off which there are separate examining rooms. Between each two examining rooms is a bath room. There is thus opportunity for careful examination of the children and for thorough bathing of the children before they enter the wards. Patients being admitted to the house through the out-patient department may reach these examining and bath rooms from the other side.

The x-ray department is in the main building, and is accessible from the out-patient department in one direction and from the house in another direction. Thus with one x-ray plant there need be no mingling of house cases and out-patient cases.

The out-patient department occupies one wing of the main building. Patients enter on the street level. Any case presenting suspicious

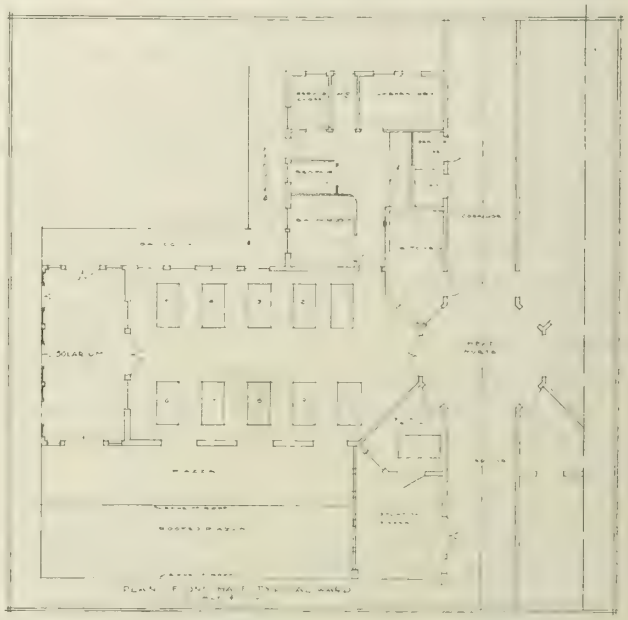


PLATE 3. GROUND PLAN OF THE PAVILION WARDS.

The wide front piazzas roofed over at the outside only are shown. The beds may be pushed out on to the piazzas through large sliding glass doors in the front of the building. The head nurse from her station may see whatever is going on in each of the two ward units.

symptoms of contagious disease may be at once sidetracked into a small suite of examining rooms, from which there is an independent exit, and thus any child having contagious disease may be prevented even from entering the waiting room.

The pharmacy is near the main entrance. The record stacks are in the basement, and the records

are to be sent by mechanical carriers to the different departments. The surgical appliance shop is in the basement of the out-patient department.

The first floor is devoted to the orthopedic and surgical departments. The second floor is devoted to the medical and nervous departments. The third floor is devoted to the throat, eye, and ear departments, and to the lateral curvature department and gymnasium. The fourth floor is devoted to private patients and a dispensary ward, in which out-patients who have been operated upon may be kept temporarily. There are no other points of special interest in regard to the main building. One wing is devoted to the nurses' home.

In the surgical building there is an amphitheater, which may be used for lectures to a large audience or for any surgical operations which are to be demonstrated to a large number. Such occasions, however, are rare. Almost all of the operating will be done in small rooms, where careful provision has been made for the accommodation of a relatively small number of students. The accompanying cross section plan shows the middle of three adjoining operating rooms. Students are admitted by a separate entrance to galleries, which are only 6 feet 8 inches above the floor. In order to prevent dust and saliva coming down upon the operating field, plate glass screens are placed at an angle between the seats on which students sit and the operating table. In this manner the students' eyes will be within less than 7 feet of the operating field, and will be almost over it. The rooms are large enough for a few men to come on to the floor if it is desired, but it is hoped that operations can be more clearly seen and better demonstrated to students in these overhead galleries than if they were sitting in amphitheater seats or in seats on the ordinary operating room stands. The angle at which the glass is placed has to be studied with reference to the light in the room in order to prevent annoying reflections.

In the general distribution the main building is toward the north, back of it are the two-story pavilions, and still further south of them are the one-story pavilions. Thus the maximum of air and sunlight is secured for each building.

IS PAVILION OR SKY-SCRAPER HOSPITAL BEST?

Comparisons of the Two Types and Arguments in Favor of the High Hospital in Crowded Sections.

By SAMUEL W. LAMBERT, M. D.
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THE fundamental question in hospital construction, whether multiple low buildings or a single high-storied structure is the more desirable, is still unsettled. If one limits a study of this subject to the writings of experts who are familiar only with European institutions, a single answer will be found to the question—all the authorities are unanimously in favor of the pavilion plan of construction. The only point concerning which they may differ is one of detail. These European writers, both those who consider the construction of hospitals from a medical point of view as well as those who consider it from the point of view of architects, are about equally divided on the question whether the separate pavilions should or should not be connected by corridors. This detail has a very important influence on the problem which is to be discussed here, and which concerns the possibilities of building a hospital of many superimposed stories free from serious architectural or hygienic errors. The solution of this secondary problem of connecting the separated pavilions by corridors, or of leaving the ward units entirely isolated from each other, would seem to be dependent in a very large measure on the extremes of climate which prevail in the locality where the hospital is to be built. In favor of such connecting corridors, one must consider the need of such a protection for the patients during transportation from one pavilion to another in the extremes of winter weather. On the other hand, one must decide that these corridors will not prove a detriment to the hygienic surroundings of the ward units by acting as a hindrance to the free access of fresh air and sunlight to the wards. The consideration of these two propositions would seem to be the determining factors to decide the question concerning the presence or absence of connecting corridors in any hospital plan. When the extremes of weather which exist in the northern section of the United States are considered, it must be decided that the corridors are absolutely essential in the winter months, and that their arrangement must be so fixed that the objections to them in the summer shall be at a minimum. The advantages of corri-

dors in the winter must, therefore, overrule all possible objections. The following discussion, therefore, of the pavilion or the block plan for hospital construction will be developed on the assumption that the several separated ward-unit pavilions must be connected by corridors, whether the single-story pavilion plan or the many-storied block plan be adopted.

The name "block plan" of construction is misleading—it originally meant a solid rectangular building several stories in height. Such a building permits only a single arrangement of central corridors, with wards on one or two sides of the corridor and which must look toward a single point of the compass. A better name for such a hospital is the "corridor hospital," as distinguished from the "pavilion hospital," which is, as the name implies, a hospital of more or less separated buildings, with wards exposed to two or even three cardinal points of the compass. There is no possible difference of opinion as to which of these two plans is the better. The corridor hospital is essentially bad in every respect except that of concentration of service. There is no doubt that the greatest amount of air supply and of sunlight exposure to the pavilion units, and also the surest avoidance of infection from one part of the hospital to another, are best accomplished in a hospital made of a series of ward units, either separated entirely or connected only by a series of corridors which are placed at one end of the pavilions and which are capable of a quick and thorough ventilation from the outside. This hygienic decentralization is an absolute necessity for a "healthy hospital" today. The question which it is the purpose of this paper to raise is that of how feasible it is to build a series of such decentralized pavilions by superimposing them one story above another.

It is estimated by Tollet, one of the earliest French authorities on this subject, that a hospital of 600 beds requires 9 acres of land in order that the arrangement of the buildings built on the pavilion plan may secure a proper interrelation of the separate buildings to each other and the most desirable exposure of all the buildings to the points of the compass. If one allows 25 patients to each ward unit, this would mean that four such units, or a hospital of 100 beds, would require at least an acre and a half. Such a plot of ground would represent a rectangle 250 feet by 250 feet, or a total of 62,000 square feet. One view of the question under discussion is, if a 100-bed hospital requires one and a half acres, can a hospital of 600 beds be placed upon such a plot of ground by piling up twenty-four ward units, arranged four on each story, in a hospital of which six stories are devoted to the ward units and three or four stories to the departments of nursing, housekeeping, and administration? Two of the principal points which must be solved before an answer can be given to such a proposition are primarily the cost, and secondly the possibility of securing an efficient hygienic decentralization in a "block" hospital made up of superimposed pavilions. In an article published in the Columbia University Quarterly last December such a hospital of about 700 beds was described. In that plan the upper seven stories were devoted to the housing of patients and the lower three stories were assigned to all the necessary departments of administration, dormitory, dispensary, and household uses. The result was a building ten stories in height placed upon a plot of ground 200 by 600 feet, and, in addition to the ordinary hospital rooms, space was provided for the scientific investigation and the teaching in medicine, surgery, pathology, and the medical specialties which are a necessity to a large medical school. Such a building will secure all the advantages of modern mechanical appliances that can be furnished by elevator service or telephone, by shortened routes for distribution of supplies and by a minimum of the service personnel. These advantages do not belong inherently in any pavilion hospital of the same size, which must be spread over six times as much ground area, and consequently will demand a larger number of persons in all departments in order to secure the same efficiency. There is no business plant which requires the same frequent transfer of persons from one department to another, the same need for rapid intercommunication with all parts of it, as does a hospital. It is evidently more difficult to apply mechanical means of transportation and of communication in a horizontal than it is in a perpendicular direction. Grober, the German authority, who has written the latest word on German hospitals, would seem to prefer man power to mechanical devices for hospital service, although he can offer no definite data as to the relative expense for both means of administration. The rate of wage for human service is so high, in America at least, that there can be no question that mechanical devices for service must be preferred to human power in this country. The cost of administration, therefore, would seem to favor very materially the more concentrated form of construction of superimposed pavilions, and in the long run that hospital will be the most successful which has the smallest fixed charges on its budget. The best test of successful hospital administration is to be found in the figure representing the average daily cost per patient per day, and the permanent reduction of all fixed

charges is the essential element in economic administration.

The actual cost of construction of the buildings, if considered alone, would undoubtedly favor the adoption of the single-storied isolated pavilion, and not the plan of a high sky-scraper building of superimposed pavilions, but the cost of the land must also be considered. In the present necessity of building large hospitals in congested centers of population, the cost of land will many times offset the increased cost of the tall building. These facts are very evident in the development of hotel and business structures in American cities, and the hospitals in those cities will be governed by the same considerations in the future. If the cost of construction plus that of the site is the same, or even quite a little greater, for the higher building, still the plan for a higher building will be chosen by preference because of the lessened cost of administration already referred to.

The test of the success of any hospital building is determined by the character and arrangement of the ward unit. The design of a ward and its adjunct apartments for medical and household service must determine the character of the rest of the hospital building. The centralization for service within the ward unit is equally as important as the centralization for service between the various parts of the hospital. As soon as the design of the ward unit is determined, all the rest of the hospital must be built around that, for every other department is subservient to the business of the ward—the care of the sick and injured. The ward unit must receive free supply of air and sunlight; have freedom from dirt, dust, and noise; there must be protection from the severe east winds, and a good cross ventilation by means of the windows. Each ward unit must be cut off from direct intercommunication of air and infection from every other ward unit and from other parts of the hospital. In the latitude and climate of the northern United States these objects are best accomplished by rectangular wards, with north and south long axis, with no obstruction toward the south, and with all the adjunct departments, for both household and medical service and for communication, situated on the northern end. A "block hospital" of superimposed stories can be built in such a way that these conditions can be fulfilled. Each pavilion ward unit can be arranged in a wing extending to the south, jutting from a more bulky main structure built along the northern side of the building site. Each floor devoted to wards would consist of as many of these pavilions placed side by side as could be accommodated when arranged at sufficient intervals from each other to prevent interference with the sunlight falling upon every pavilion. The stories of wards should be superimposed in sufficient number to accommodate the number of patients desired. The best part of any building for ward use is the upper portion, and the wards should occupy as many of the top stories as may be necessary. The height of each ward unit should approximate 15 feet, so that the connecting corridors placed between the northern extremities of the ward units may be of less height and built in the nature of enclosed bridges. Such connecting corridors of about 8 feet in height will allow the free circulation of air from the south to the north, or vice versa, between them even if it is deemed necessary to build them on every story. In such a grouping of ward units the hygienic isolation of the individual ward and hygienic relation to the climatic conditions and to the neighboring buildings can be secured whether the building be ten or even twenty stories high. This hygienic isolation can be insured by making the corridors for horizontal communication open to outside air ventilation, and by placing all stairs and elevators in shafts which can connect with each ward floor only through a system of double doors and an intervening vestibule. Such a building would be most desirable for city construction, and its usefulness would be enhanced if it could be placed where light and air may be borrowed from the surrounding neighborhood. Such a hospital should not be placed in a business center, where similar tall buildings would be likely to be built. If it is located in the neighborhood of a park, so much the better, but in any case it would be desirable that it should be placed where it would be likely to be surrounded by ordinary city homes or tenements four to six stories high. In this manner the upper stories which are devoted to the wards would be placed above the surrounding buildings, and would secure the necessary unobstructed access to air and light.

In developing the service departments, these should be placed upon the lower floors, and as many stories as may be necessary to accommodate the desired number of patients should be set apart in the upper part of the hospital. In New York City, at least one hospital has been built on these general principles. The building of the lying-in hospital at Second avenue and Seventeenth street presents many of these features in a well-developed state. No patients are accommodated below the fourth story in a building which is seven stories high. In the lower four stories a nurses' home and all the necessary departments for administration and service, including the dormitories for a large body of students and the teaching rooms for a school of obstetrics, have been

placed. There is also an out-patient department, and the regular rooms for the resident staff are included. This hospital was designed in 1898, and consists partly of superimposed pavilions and partly of the questionable corridor type, and yet, by means of isolated towers for perpendicular elevator and stair communication and of outdoor corridors for separation of the different parts in horizontal intercommunication, the necessary hygienic decentralization required of a healthy hospital has been accomplished, and at the same time the administrative centralization for the economic conduct of the service has been developed and secured.

The principal things which will determine the course of action when a new hospital is to be erected must be, first, the type of construction, which will depend on the cost of land. If land is cheap, the pavilion plan may be selected; if land is expensive, the sky-scraper superimposed pavilion plan should be determined upon. In deciding the question, it must always be remembered that it is frequently easier to secure money for initial cost than it is to secure endowment to maintain a hospital which has been built perhaps more cheaply than otherwise was necessary, but upon a plan which demands an excessive per capita per day expenditure. The running expenses and the annual budget of the hospital are the factors which determine its future success and usefulness. The high, steel skeleton American building fulfills more nearly than any other the economic demands of hospital administration, and it is believed that it can be built in such a way that it will sacrifice in no way the hygienic conditions necessary for the conduct of successful medicine and surgery.

PROPOSED INSPECTION AND STANDARDIZATION OF HOSPITALS.[1]

Shall the Work Be Done and Why?—Who Shall Do It?—What Shall Be Its Scope?—On What Basis?—Large and Small, Special and General, Or Each Class Compared?

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THE growth of the hospital has always gone parallel with the development of medical science. In the day when the doctor's diagnosis was made at the bedside without the aid of any other person and without the aid of outside forces of which he was not the arbiter, and when his treatment of the patient was corked up in a bottle of medicine, the only persons sent to the hospital were those who had no homes in which to be cared for, nursed, and fed—that is, the very poorest of the poor.

With the development of clinical pathology under Virchow, Billroth, and their contemporaries, there came new aids to diagnosis, aids which demanded the cooperation of a new class of medical scientists, whose work was of necessity done at some central point and not at the home of the patient.

Then came the age of Lister and a tremendous broadening of the field of surgery. Men were cured of diseases that had been hopeless before, but the facilities of the hospital and the assistance of trained people were necessary for the employment of antisepsis on the operating table; a new class of patients was in this wise introduced to the hospital wards.

And then came bacteriology and on its heels asepsis. If there was an impetus to operative medicine under the Listerian impulse, revolution followed asepsis, because abdominal surgery was born. Other classes had need of the hospital, but this was only the beginning.

The pathologist began to make pictures of the blood and to identify certain of these pictures as belonging to certain symptoms and certain diseases, and so his services were needed as an aid to diagnosis. And the secretions came in for like discoveries—the urine, sputum, stomach and bowel contents—and the pathologist was the daily, hourly coworker with the clinician, and his workshop was the hospital. The x-ray had already come with its costly, cumbersome machinery, and that, too, was in the hospital. And so it came to pass that all mankind needed the hospital.

These few high lights of hospital development are cited merely in proof that the hospital has not grown to its present high estate as an independent factor in step with an inevitable social progress, but rather was swept along by the imperious demands of scientific medicine.

But the progress of medicine has been that of a magnificently organized force. The completed task of each worker has been added to the common store. But, as a recent writer has aptly said, "until now, whatever of system has developed in hospital growth has been due to indi-

[1]Paper read before the American Hospital Association at Boston, August 27, 1913.

vidual hospital preeminence," and not as a part of a uniform, homogeneous plan. The time would seem to be at hand, therefore, when the hospital should think about organization, standardization, classification—system.

The first law of high achievement is comparison, and we must have the comparative factor if we are to attain the superlative. All nature is based on comparisons; the green fields would pall but for the blue hills far away, the silver waters of the brook, threading their way through, and the lights and shadows everywhere. The Great Painter has coated the birds and the beasts in those colors best adapted to secure their hiding places. Nations recognize the contrasts of color, and add protection to their armies by clothing them in the olive greens, the khakis, and the grays, so the enemy will not have the shining mark that so delights the Destroyer. Navies are sent to battle in protective gray, so the enemy may not mark so well. The racer has his running mate to standardize the pace; schools adopt percentages, so there will be the stimulus of the high marks. The soldier is brave when compared with his fellows; the giraffe is a dwarf among the trees and the elephant a pygmy in the hills.

So all things are measured by comparisons, and, if the hospital is to progress, it too must have high marks of achievement in the things that make for perfection in architecture, in equipment, in administration.

But the standard that would help a weak hospital to a higher place is one thing, and the standard that would destroy one that had not already achieved that higher level is quite another; and it goes without saying that any standardization proposed must be constructive and not destructive. But if there are to be standards set, there come up some new questions:

Who is to set the standards?

How shall standards be arrived at?

What shall be their scope?

Let us debate very briefly the first of these problems. All laws are made on the assumption that men cannot judge best for themselves as to their duty to society, and so a tribunal is selected to standardize the conduct of the individual, and usually the standard set is not the highest possible of attainment, but such as can be met by the average person. Laws are not made so that the few can obey them, but for the many; but at least those laws are standards of social conduct. Those who can do better than the laws provide are the leaders, and set the high-water marks for the emulation of their fellows. And so it must be if hospital standards are to be worth while.

The hospital administrator—that is, the hospital personified—is too close to the problem, too much of an interested party, to see clearly the direction progress must take. We are dreamers all, and in the final analysis each of us has his fad and his hobby born of enthusiasm, and properly so born, but that very enthusiasm makes us poor judges of the conduct of others in like occupation.

The physician is incapable of judging of hospital standards and hospital efficiency for the same reason. He has his specialty, and that specialty needs certain facilities in a hospital, and he is likely to be blinded to the needs of others. Moreover, many physicians own hospitals, and so it would come about that, if the medical profession were asked to standardize hospital efficiency, they would be in effect standardizing themselves.

Then, who shall do the work? Some years ago this same problem came up in regard to the standardization of medical schools, and for a long time the medical profession tried to standardize its own schools, and made a lamentable failure of it—nothing was done, no standards were set that could be approved by enough of the profession to have any influence on the schools of the land. But eventually one of the great foundations was persuaded to undertake this work for the reasons given. It was not an interested party, but was interested only in the good of the whole people. It had money available to make the necessary investigations to arrive at standards, and the result was that four or five years ago the Carnegie Foundation published a report standardizing the medical schools of this country which, while creating a vast furore and disapproved in many places because it had found fault with prevailing custom, stands today as the law of the medical schools, and already there has been an improvement of more than 100 percent, partly by the elimination of schools that could not be standardized and partly by improvement in the schools that had a right to exist.

Then, it may be frankly asked, is a standardization of the hospitals intended to eliminate certain hospitals? Perhaps so, but only those that ought to be eliminated, those that are created and conducted for private gain; many of them quasi-criminal in character, maintained to exploit people and especially to exploit that class of people least able to protect themselves—the sick, the poor, and the unfortunate. A standardization that has any other purpose in view would not be approved and will not be carried out; but not a single hospital created and maintained for the sick and intended to be supported by the public, either as a private institution organized under the no-profit laws, or a public hospital, can possi-

bly be embarrassed or hurt by such standardization and, on the other hand, will be greatly aided.

How shall standards be arrived at? Hospital efficiency is a personal service and contemplates the carrying out of the doctor's orders for the benefit of his patient. This is not theory—this is practical hospital administration in its last analysis. One cannot sit in an office and make standards for hospitals. One must get out and see what the hospitals are doing and how their service is meeting the demands of the physician for the benefit of his patient under the laws of modern medicine.

The doctor today requires help to make his diagnosis, and for this purpose there must be a laboratory of pathology. It need not be elaborate or expensive, but it must be scientifically correct, and reports from that laboratory must be reliable. And to perform this work there must be trained people; for the small hospital not many, but at least one, and not all his time perhaps may be required and he may serve one or several hospitals, but his service must be exact and scientific. In this day, when even pathology is specialized and where the pathologist may not be specially trained in bacteriology, there must be facilities in the hospital to perform every variety of what is known as hospital pathology. There must be someone who can give to the doctor his diagnosis of tissue taken in the operating room; there must be someone who can distinguish the various micro-organisms, make cultures of them and vaccines; there must be someone versed in the laws of serum therapy and who will be able to direct the administration of the serums in proper cases. There must be someone capable of making secretion analyses, or there must be some place near by where each hospital can have available these various aids to the physician.

The x-ray is no longer in an experimental stage, and it is needed not only for diagnosis of long bone injuries, but by its aid the doctor can now make diagnosis of bone lesions in diseases of the joints. And not only that—we are now invading the cavities of the body and are determining diseased soft parts, and calculi of the various organs can be located. Not only in diagnosis is the x-ray valuable, but recent discoveries have shown its value in the treatment of many diseases, and it is necessary that the modern hospital shall be able to do this work or shall have facilities near by for having it done.

The scientific feeding of the sick has in a very large measure taken the place of drugs in the treatment of disease, and it is necessary that the hospital shall be able to carry out the doctor's prescription in the matter of diet. Someone in the institution who has charge of the special diet department should know the chemistry of foods, the physiology of the digestion, and should know how to apply these sciences to aid the doctor in his work on metabolism.

The success of surgery today depends less on the skill and experience of the surgeon than on the asepsis of the operating theater, and this asepsis must be guaranteed in even the smallest hospital.

The nursing of the sick is a scientific part of hospital administration, and there are certain demands of the medical profession today in the practice of nursing that must be met—cleanliness, accuracy, kindness, sympathy; all these go to make scientific nursing.

These are a few of the directions that standardization must take. There seems to be only one way to determine these standards, and that is by personal investigation of each institution and at the end of such an investigation summaries can be arrived at, determinations can be made, marks can be set.

It has been suggested in some quarters that hospital standards need contemplate the value of the hospital only as an adjunct to the medical school. This, of course, is preposterous. The time has gone by when the hospital is an adjunct to the medical school, and the reverse is true. The hospital is reared, supported, and administered for the care of the sick. The care of the sick is the hospital's first law, and the second law is the education of those who must come after to cure disease; and therein lies the value of the hospital to the school, and therein lies the helpfulness of the hospital to the school, but first and foremost, if the hospital is to be standardized, it must be standardized as a place in which to take competent care of sick people, and it must not be standardized on a basis of what it can do for the medical school.

Those of us who think all the knowledge of all the ages has been concentrated in the building and equipment of the modern hospital will be disillusioned to know that Tonerre Hospital, in Burgundy, built in 1293 A. D., enjoyed some advantages that the hospitals of this country today might envy. It was situated between the branches of a small river, to afford good drainage; its one great ward, 260 by 60 feet, was lighted by many large windows extending high up toward the lofty ceiling, for ventilation and light; a narrow gallery ran along the wall 12 feet above the floor, for the regulation of ventilation, and this gallery was used for sun baths for convalescents. The beds were separated by low wooden partitions, which were portable, making the ward into one large room at will, so that during mass the altar might be seen from every bed. The area per patient was four or five times that allowed today.

OUT-PATIENT WORKSHOPS—A NEW HOSPITAL DEPARTMENT.

Proposals That Hospitals May Provide Work for the Handicapped—Families May Remain Intact—Careful Selection of Work Required.

By HERBERT J. HALL, M. D., Marblehead, Mass.

WITHIN a few weeks there will be ready at the Massachusetts General Hospital a workshop for the manufacture of flower-pots. The shop will be small, but well equipped with automatic molds, so that people of very little strength may turn out pots and flower-boxes of such design and coloring as should command a ready market at a fair price. The molds have been so constructed as to insure success from the mechanical and artistic points of view. Nothing will be left to the choice and initiative of the workers, who will be chosen from among the chronic out-patients of the hospital—people who would otherwise be idle at home or working at some hard, unsuitable employment. This is, so far as I know, the first attempt of a general hospital to provide work than can be regulated to the capacity of its crippled out-patients, with the idea of protecting these people from the evil effects of idleness or overwork.

No one will doubt, I think, the advantage of quiet, controlled, and fairly remunerative work for the patients whom the hospital has discharged relieved, but who are still liable to breakdown under unfavorable conditions.

The fact is that this important element of adequate work for partly disabled patients has never been fully met by any outside charitable agency, so it is proposed that the hospital undertake to safeguard its patients and to protect itself and the public in this new way. The ability of the hospital to provide specialized and remunerative work will, no doubt, be questioned. I shall try to show the possibility of a new industrial system, which shall be presided over by the hospitals, and which shall justify itself in every possible way.

Dr. Hornsby says in his report to the Board of Commissioners of Cook County: "Public institutions to take care of the sick are not wholly monuments to the benevolence of the people—they are defensive institutions for the benefit and protection of society;" and later in the same report: "Heretofore it has been and is now the custom in eleemosynary institutions all over the world to pick up the fallen, keep him until he can stand on his feet, and then turn him adrift. Tomorrow he falls again, and we repeat our benevolence of yesterday, and so we make no advance; and vast numbers of our poor and helpless, who could be restored to their families and to self-support, are permitted to drift into a state where they become public charges. The records of our county institutions will show vast numbers of returned cases; cases that come back with the same ailments that brought them in the first place, and up to this time we have been satisfied to regard this situation with placidity." He continues his arraignment by saying: "The time has come now to take a broader, better, more businesslike view of our obligations to the poor, the needy, and the helpless, if for no other reason than good business judgment." These are strong words, and they mean that a great tide is turning toward better and more practical charities.

If the hospital is to undertake to improve conditions in the life of the patient after his discharge, it may well begin by providing adequate work. Work with a money return will be the substantial basis of all such improvement. Without that basis, except in cases of absolute helplessness, our charity may be frightfully wasted. The social service workers have in the past few years accomplished a great deal in the right direction. The Social Service Committee of King's Chapel in Boston has in Miss Harpor a woman who knows the trades and who is remarkably successful in finding work for handicapped people. But the doors of the industries are, for the most part, closed to the handicapped. Business is geared too high to give more than an occasional, subordinate place to men who are not able-bodied.

In Chicago it is proposed that the County Hospital shall control a great farm at Oak Forest, where the discharged patients shall go and where they shall remain as long as necessary under medical observation, and where they can do prescribed work for their own individual support and for the common good. Perhaps this will be the usual and best way of dealing with the problem. I think, however, that we shall find great numbers of patients who will not do well on a farm, and who must have work of another sort if they are to be controlled. Many of the people who break down and come to the hospital would be quite out of their element in the country. They are shop workers from first to last, and they would be poor assistants on the farm, although they might theo-

[1]Paper read before the American Hospital Association at Boston, August 28, 1913.

retically be better off there. Further than this, the separation of families is undesirable if it can be avoided. A great many patients unable to work in the regular industries could still live at home and work by the day in specialized shops if such shops were conveniently located at the hospitals. The burden of providing work would be a much lighter one if a good proportion of the patients could have the personal care and partial support of their families.

It is easy to believe that the whole idea of specialized work is impractical. If the established factories and workshops of the world must employ only the most efficient, how can charitable institutions without experience and with crippled workers hope to accomplish adequate results? I believe that the hospital workshop—this first one in Boston and many others that may follow the example—will show the possibilities of an industrial system of tremendous economic and social importance. Not many years ago the great manufacturing plants were throwing away biproducts that are now worth their annual millions. The industrial world is today throwing away damaged human material, the reasonable salvage and exploitation of which would change the economic outlook of the world, and that would save an amount of human suffering too great to be reckoned.

An experience of ten years in the study of occupation for handicapped people of a very different class has made me sure that this great thing can be done. The first requirement is this: that the new handicapped industries must not attempt to compete with machinery, that they must not cross the established lines. The second requirement is an assured market for all products; this implies that the choice of products shall be wise and far-seeing, and that the workmanship must be good. The third requirement is that the work must be of a kind adaptable to physical and nervous limitations. In the light of these three requirements, let us examine the flower-pot industry which is now being pursued in a small way at the Industrial Home for Convalescents at Sharon, Conn., and in my own experimental shops at Marblehead. If we were to attempt to make flower-pots out of clay as they have been made for generations; if our shop force of handicapped people were to compete with the jigger-wheels and the enormous kilns of the great potteries, we should not only fail, but we would amply deserve our failure. But we propose to make flower-pots in a new way—out of cement this time, and cast in molds that can be handled by a crippled girl quite as well as by a strong man. If our molds are proportioned and designed by an artist of full ability, then the situation changes. The strong men may bend to their wheels, turning out cheap and rather ugly flower-pots that sell, to be sure, by the hundred thousand. This great industry goes its way, and it will not interfere in the slightest degree with the smaller, slower, but equally well justified, process.

When I say well justified, I mean that this new product gives to the public at a moderate price—more expensive than terra-cotta, less expensive than glazed pottery—a beautiful and useful article of common use. The material for these cement flower-pots costs from three to ten cents; the selling price is usually from fifty cents to one dollar. Thus is the second requirement fulfilled, or as nearly fulfilled as can be the case with any new idea. We are counting on the well-known market for flower-pots, and on the especial characteristics and middle-priced value of our wares.

The third requirement is more easily met than most of the uninitiated would suppose possible. Here is the keynote of success for all handicapped labor. There must always be a fully trained instructor and a sufficient number of able assistants. Handicapped workers alone are hopeless and helpless; under careful direction there is no end to their possibilities. It is necessary to insist upon fractional effort. Sustained effort, without periods of rest, will end in failure for most handicapped workers. With periods of alternating work and rest, a very feeble person may accomplish, without harm, a surprising amount of work. The molds for cement flower-pots of any shape, and for all except the larger sizes, can be handled by a person with one hand or with very defective sight, or by one who, because of a cardiac dyspnea, must work very carefully and slowly.

Cement working is but one of many possible modifications of existing industries. In the shops at Marblehead we have developed hand-weaving to a high degree of perfection. By our three requirements, hand-weaving is available for convalescent or permanently limited people. We would be absolutely lost if we were to attempt to make cloth such as could be more readily made on the power looms. But by developing especial patterns and individual effects designed by clever craftsmen, we provide a business capable of supporting a great many handicapped workers. At Marblehead we make a small woolen blanket for babies. The material costs about 60 cents. If we were to weave a similar length and width of plain wool, we could not sell it for a dollar; but because there is an attractive design and because the ends are finished well, these specialized blankets sell for $6. It takes about a day and a half to make one of these blankets. The factories could not take the time

and trouble to produce such things, but the hospital workshops could take the time and it would mean partial self-support where such help is greatly needed.

The making of artistic pottery is a field in which handicapped labor may some day be employed. It means, however, an expensive plant and a number of expert people. My own experience in this line has been hardly less interesting because my patients have been few and of the educated class. Eight years ago we began to make pottery, thinking that it might become a good feature in the specialized industrial plan. The work did not turn out well at first because pottery making is a fine art, and takes time and skill for development. We worked, of course, on a very small experimental scale, but we soon found we could not take in invalids and convalescents as helpers and apprentices because they spoiled the product. Finally the personnel narrowed itself down to four people—two workers who were pretty seriously handicapped, and two who were professional potters. These people worked out the problem at last. The handicapped workers are now practically well and are earning a living. We have added one able-bodied worker, and these five people make a successful unit. They made and sold last year $6,000 worth of pottery, a ware so fine that it ranks among the best in the country. Later I shall hope to bring into this pottery business a number of handicapped workers who will attend to various necessary details. The little plant is at present quite self-supporting.

In our shops we have tried out metal working of the finer sorts, basketry, leather and wood carving. These crafts I have for the present discarded because we cannot make them pay. An immense amount of combined medical and industrial observation will be needed before the idea of handicapped industries can be carried out in a really adequate and comprehensive way. My own personal work has gone just far enough to make me sure we are on the right track. It has been carried out, for the most part, among people of education and means, who are willing to take the work cure because they realize that it is the short cut back to efficiency in neurasthenia and allied conditions.

It is, of course, quite possible that the plan of the hospital workshops may not succeed in its early forms, but I hope you will watch with interest the little cement industry in Boston and at Sharon.

I believe the need is great enough and the early prospects good enough to warrant extensive experimental workshops, where various trades may be tried out mechanically and studied clinically. Such a study, to be adequate, would require endowment or public support. Such support would seem well justified, for, if we stop to think, we shall realize that idleness means heavy tax upon the public charities and much, very much, more. From the point of view of public morals, as well as from pressing economic reasons, the thing is justified.

Workshops may be established extensively in connection with hospitals and asylums in and out of the cities. They may sometimes be maintained by several institutions jointly; they may be run in connection with such farms as that proposed in Chicago; they may help out materially in unexpected ways, as in the problem of the tuberculous convalescent. Until the larger development comes we are doing the best we can without endowment at Marblehead. These workshops are now prepared to take young men and women as pupils, and to fit them, as far as possible, to direct and teach in hospitals or elsewhere. We can furnish molds and other apparatus for cement working, and looms and materials for hand-weaving.

A social worker who knows whereof she speaks, has said: "Not drink, not gambling, not any of the three hundred evils to which the human race is heir, but the workless man. He is the vital problem, for he is prey to all the other evils."

There is nothing new in the idea of occupation for invalids. The work of patients has been successfully used in many institutions, such as those for the blind and the crippled. The exploitation of handicapped labor has even been looked upon with suspicion, perhaps not always unjustified. Sometimes in homes and asylums the patients or inmates may have been employed to their own disadvantage and for the benefit of the institution.

Carefully premeditated and concerted action is needed in order that such possible injustice may cease, and that a beneficent system may have its largest and finest application.

I wish that the idea might be taken up by the smaller as well as by the larger hospitals, and that you may at least see your way as an association to the investigation of a matter which I know you will agree concerns to some extent the final efficiency of our hospital service.

A new hospital for women, with only women on its staff, has been opened in London. The example of Mrs. Garrett Anderson, the physician who started the first English women's hospital, has been followed by a group of women who are back of the South London Hospital for Women. How great the need of such an institution is is shown by the fact that only two weeks after it opened its doors there was a waiting list of 180. An incidental benefit of these two hospitals is that they afford woman physicians an opportunity to get clinical training. All the other institutions are closed to female interns.

POETRY AND PROSE IN THE HOSPITAL.

Romance and Facts Connected with the New City Hospital, Louisville, Ky.

By J. W. FOWLER, A. M., M. D., Ph. D.
SUPERINTENDENT.

BACK in pioneer days, some time after the world-renowned Indian fighter, Daniel Boone, made his way from his home in North Carolina across the Blue Ridge Mountains through the Cumberland Gap to the paradise of the Indian hunter, abounding in wild deer, buffalo, and bear, known as the Dark and Bloody Ground, there came to the falls of the Ohio river a pioneer expedition at the head of which was the brilliant soldier and surveyor, George Rogers Clark. The eyes of man never beheld a more entrancing panorama of nature than lay before his vision—a mighty river a mile in width, with a number of forest-clad islands arising from her silvery bosom, as fair and beautiful as the emerald gems that grace the tapering fingers of my lady fair. The circling knobs rose to almost inaccessible heights along the Indiana shore, and a valley of surpassing beauty, kissed by the sparkling water of the Ohio, lay upon the Kentucky side.

"There is not in the wide world a valley so sweet
As the vale in whose bosom the bright waters meet."

Here the bright waters of the majestic Ohio meet and struggle, and with a stupendous onrush fall over a descending plane of gigantic rocks a depth of 45 feet with a force that lashes its waters into a thousand swirling eddies and sends the white spray high in air, rendering the scene about the falls one of gorgeous beauty. The intonation of the falls is heard for many miles around on soft moonlight nights, such as are only found in old Kentucky, for

"The moonlight falls the softest in Kentucky;
The summer days come oftest in Kentucky;
Mountains tower proudest,
Thunder peals the loudest,
The landscape is the grandest—
And politics the damdest
In Kentucky."

It is written by a great geologist and antiquarian that the geological formation about the falls of the Ohio and the prehistoric mounds that are found here establish the fact that this is the spot where man made his first appearance on the earth, and, therefore, this is the cradle of the human race.

Be that as it may, George Rogers Clark founded the city of Louisville on one of the emerald islands mentioned, and in doing so builded wiser than he knew, for Louisville has grown to be a city of 300,000, and is known as the gateway to the sunny South, and her warm-hearted people welcome the world to the land of sunshine and flowers.

In 1813 the old City Hospital was chartered. It was built and stood for a century with outstretched arms as a home to the sick and wounded of all nations. Listen, ye modern Knights Hospitalia, to the wisdom of those pioneers in their definition of the uses of a hospital:

"Owing to the fact that the charity of private individuals is unable to provide for the many sick from exposure to long voyages and other causes, it would be wise and humane to erect a hospital at the falls of the Ohio for the safety, comfort, sustenance, and restoration of the wounded and afflicted."

After the old hospital had stood for sixty years amidst her forest trees, still beautiful in her old age, an effort was made to build a new one, which failed. Each succeeding mayor for forty years (take courage, ye who are waiting and hoping) tried to build one. It was the "outs," mistrusting the "ins," who always voted "no." But in 1911, by a concerted action of both "ins" and "outs," led by our distinguished Mayor W. O. Head, we succeeded in getting, by vote of the people, $1,000,000 with which to build a modern hospital.

A bipartisan hospital commission was appointed, consisting of four of our best citizens—Colonel John H. Leathers, banker and ex-Confederate soldier; Mr. Joseph Hubbuch, a most popular German citizen, Democrats; Dr. Ap. Morgan Vance, the great surgeon of the Ohio Valley; and the learned and beloved Judge Arthur Peter, Republicans. They in turn selected the best-known hospital architects in the South, D. X. Murphy & Bro., and secured the services of the accomplished engineer and superintendent of St. Luke's Hospital, Chicago, as consulting architect. The commission made a journey over the country looking for the best features of hospital construction, and finally decided to erect a group of eleven buildings, consisting of three stories and a basement, combining the cottage and pavilion systems.

Then came the order for me to move out, as they wanted to build the new hospital on the old site, and for the first time in the history of the world a big general hospital had to move, carrying patients, nurses, physicians, employees, babies, furniture, and cooking stoves with us. This was one of the newspaper headlines the day before

we moved, "An Undertaking Surpassing Any on Record—Moving 300 Patients a Mile Distant, Carrying Everything With Them." This headline appeared the day after we moved, "Gigantic Task of Transplanting Sick of City Completed With Few Mishaps."

Last April the Board of Safety suggested that I visit the hospitals of the country and study their management. I demurred, as I thought I had enough experience and data at hand. I was instructed by the mayor to go, and my first trip was to Chicago. After visiting Michael Reese, St. Luke's, Wesley, Mercy, and Cook County, this is my report:

"Board of Safety—Mr. E. T. Tierney, Chairman.

"Gentlemen: If a city best exemplifies its culture, its sanitary advancement, and its humanitarianism by the number and character of its hospitals, then the 'Windy' certainly stands to the fore, and redeems its reputation of being the fastest and wickedest city in America, for charity truly covers a multitude of sins.

"I thought I knew from reading and experience something of hospitals and hospital work, but my imagination never painted the things I have witnessed here, and my mind is bewildered in its attempt to correlate and classify for your benefit what I have learned. I said to Mr. Tierney, when he informed me that the mayor wanted me to visit the larger cities with a view of learning the best way to manage our new hospital, that I did not think it necessary, as I had all the data I wanted to place it on an equality with the best. I now, and here, apologize, for I see the wisdom of his proposition. My circumscribed hospital experiences were too limited for me to comprehend what splendid advances have been made in the hospital service of the great city of Chicago. I now realize that the mayor's advice to visit the large cities is the thing to do."

Since then I have visited all of the larger hospitals of America in quest of knowledge, and have traveled from ocean to ocean and from Hudson Bay to the Mexican gulf.

I do not know of any other superintendent in the country who has had this privilege, and I want to say that I was hospitably received and always granted the opportunity of getting such information as I wanted, and, in addition was shown a world of courtesies, for which I am very grateful. If my capacity was as great as my opportunity to learn, I would be the best informed superintendent in the United States, and there would be no necessity to establish a hospital bureau at Washington, for when a superintendent wanted to know anything, all he would have to do would be to communicate with me.

On the last lap of my journey over the United States I stepped within the classic corridors of the Boston City, Massachusetts General, and the Peter Bent Brigham, of Boston; the Mount Sinai, Gouverneur, Rockefeller, and Bellevue, New York; the Jefferson, City Contagious, and the City Hospital, Philadelphia; the Johns Hopkins and City Hospital, Baltimore; the Georgetown University Hospital, City Emergency, Washington; the City Hospital at Pittsburgh and the City Hospital at Cincinnati. In a future article I will give the readers of THE MODERN HOSPITAL my impressions in detail of these hospitals, and some of the characteristics of their distinguished superintendents.

I am back in Old Kentucky, and I find our dream has come true—our new hospital is completed and nearly ready for occupancy. It is as beautiful as the petals of a marechalneil rosebud.

I have seen larger hospitals in my journey, one costing $1,500,000, have seen more imposing ones, architecturally—hospitals with better environment as regards space, trees, and altitude—but none of them are just quite as classy as this marvel of beauty, whose inmates will be lulled to sleep each night by the music of the rippling waters of the falls of the Ohio.

"The dove-notes are the saddest
In Kentucky;
The streams dance on the gladdest
In Kentucky;
Hip pockets are the thickest,
Pistol hands the slickest,
The cylinder turns quickest
In Kentucky."

The Board of Trustees.

"The only object of a hospital is to cure the sick. Every penny spent on any other is matter for regret. Unfortunately, management cannot be done without; but so long as the funds of the hospital are properly spent and the patients are treated with skill and kindness, the less the cost of management the better," says *The Hospital* (London). "Theoretically, if the right man could be found, management by one man would be the best; but human nature being what it is, imperfect so far as one man is concerned and distrusted so far as the subscribing public is concerned, a committee of some sort is necessary. Certainly it is better that this committee should be composed of men or women interested in their work; but it does not follow that the larger the committee, even of interested people, the better do they manage the hospital. Committees of management, in short, are not training grounds; they are or ought to be composed of men who have a knowledge of their work. It is, of course, sometimes unfortunately necessary to conciliate some important local interest by offering a seat on the committee to this or that individual. Luckily, too, it also often happens that this individual turns out an excellent committeeman, but unless the majority of the committee are sound business men, the hospital suffers. A hospital committee of the average kind is composed of twenty or thirty of the local business men of position, strengthened, as some think, by members of the honorary staff. A committee of this sort may become sleepy and old-fashioned unless it has an energetic chairman to keep it alive, but on the whole it makes no gross errors of management; it is not guilty of fussy interference, and it knows the necessity of discipline."

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The Sanatorium's Purpose and Setting.

The sanatorium is constantly looming larger in the eyes of the medical public. Within the past fifteen years the popularity of certain sanatoria and the activities of sanatorium promoters have increased enormously throughout this country as in Europe. That is a fact of deep significance. The *fact* is apparent to every observer; the *significance* is seldom grasped. And yet the significance is fundamental, and as far flung as medicine and as pathology. The sanatorium is but a special type of hospital. To the hospital the sick of all classes are thronging, because they understand that in the hospital they can find the best care as yet provided; *as yet,* because the conventional hospital is not now doing its full duty. It cares for the immediately and acutely ill, but it disregards their convalescence and their ultimate recovery. Always this disregard has been a fact, save for a few hospitals for chronic disease and the homes for incurables. The afflicted public long ago grasped this fact; they felt neglected. Chronic invalids and convalescents are always with us. Long ago they found themselves thrust forth from the hospital doors. They suffered, and the sanatorium was devised to meet their needs. The public was proportionately grateful. Sanatoria grew in popularity. Large numbers of the public loved and trusted them. Sanatoria became veritable *almae matres* to the forlorn, while unscrupulous men stood ready to reap their profit from those confiding ones. Unqualified promoters waved their flags and shouted their wares. They celebrated the virtues of baths and springs, of mountain tops and forests, of mud and medicine, of fabulous frictions, and of dingy dietaries. Underneath it all, however, there grew up genuine service, founded in a fashion on appreciation of genuine needs. Smiling hotel clerks and obsequious doctors learned something of the customs of the sick, and gradually a more skilled service and men of genuine training turned themselves to the new sanatorium field. Still, sanatoria mostly remained commercial properties, conducted by commercial men, and such conductors caught the spirit of other popular resort promoters—the spirit which aims to catch the immediate fancy of patrons, to retain them and to encourage their return. Meantime these patrons have seen conditions change with the lapse of years. Health resorts—bogus sanatoria—which have little relation to scientific medicine, have multiplied; hot springs and seaside hotels, mountain retreats, and forest camps now solicit invalids; they abound throughout the land, and with their natural attractions they compete seriously with the genuine sanatoria. And, then, there is the automobile. We are in a period of transition, and we are properly concerned with the genuine sanatoria only.

All these conditions so complicate the once smiling sanatorium situation that they have forced upon the sanatoria a problem which seems susceptible of but two solutions: either the sanatoria must become popular-resort hotels themselves, or they must revert to their original purpose—the healing and care of the sick. To attain this, they must adopt many or all of the features of modern hospitals—these in addition to their proper rest cure, diversion, and sanatorium features. They must seriously and faithfully cling to scientific medicine in the general study and treatment of patients, but they must continue the personal solicitous interest in the individual patient—that interest which has always characterized and humanized sanatorium life. Sanatoria must never fall into the attitude of error common to busy hospitals—the attitude which views patients in groups, which cultivates the impersonal, which interposes a barrier of formality, nurses, interns, and routine between the patient and his physician.

We shall discuss later the nature of a sanatorium clinic and methods of bringing scientific medicine to its aid. Such methods lie at the root of sanatorium efficiency, if sanatoria are to en-

dure. Suffice it here to remind our readers that many of the old and attractive sanatorium features must still be maintained and perpetuated. They are an invaluable asset: the country; an agreeable climate; charm, beauty, and grace in surroundings; sightly, comfortable, and commodious buildings; a plain, but good and substantial, cuisine; courteous and well-trained attendants; cheerful rest rooms; indoor relaxations and amusements; outdoor recreations. Such is the setting. The scale may be great or small, but our sanatorium must impress the patient with a sense of efficiency and perfection. The psychical significance of all this is never to be forgotten. Shoutings and advertisings and clap-trap count for nothing in the end. The plant should be inspected occasionally by a competent architect. All this is the frame of the picture, and the gilding of the frame must not tarnish. But never confound the frame with the picture; and the picture—the actual sanatorium—we shall discuss in further writings.

JAMES G. MUMFORD.

Low-Cost vs. High-Cost Hospitals—A Reply to Dr. Ochsner.

In the September number of THE MODERN HOSPITAL Dr. A. J. Ochsner, of Chicago, who is widely known as a surgeon and as the author of "The Organization, Construction, and Management of Hospitals," ventures anew into the field of hospital economics. "In the aggregate," says Dr. Ochsner, "enormous sums are expended for hospital maintenance. It is of greater relative importance to avoid wasteful expenditures for maintenance than to prevent extravagant outlays for construction, because the expense of maintenance never ceases. As an illustration we need but to take two of the best known hospitals in this country. In one of these the actual cost of maintenance is slightly less than $1 per day, while in the other it is $3.30 per day. The difference in a year would be $839.50. Apply this difference to each one of the one million hospital beds which are required in this country, and you would have wasted the stupendous sum of $839,500,000 per year."

There are those who will assume that there are differences between the hospital whose "actual cost of maintenance is slightly less than $1 per day" and the hospital whose per capita is $3.30. Dr. Ochsner is prepared for this assumption, which he says will be made "by those who have not studied this phase of hospital development." He asks whether it is "unreasonable to consider both of these institutions equal in their efficiency so far as the care of the patient is concerned." The answer follows: "As a matter of personal observation, I can state that both institutions are perfectly sanitary and clean; in both the patients receive most excellent food and the best of care; but in one institution no unnecessary things are purchased, and of the supplies that are purchased almost none are wasted. In the other institution *a principle which has worked itself into the daily life of almost every member of the medical profession is the real cause of the high cost of maintenance. Every medical man has the feeling that when the life, health, or care in sickness of a patient is concerned, all other things, especially the cost of things, are of little or no import, and as a result of this principle millions and billions of dollars are being expended in hospitals without reference to what this expenditure will do toward real efficiency.*"

Dr. Ochsner generalizes from his personal observation of conditions in "two of the best hospitals in the country." Perhaps he will give us the names of these hospitals. If he will show us how, at an expenditure of less than $1 per day, we can obtain commodities for which hospitals ordinarily expend $3.30, the hospitals of the country will owe him a debt of gratitude, and the nation, according to his own calculation, will save "millions and billions of dollars."

While waiting for Dr. Ochsner to furnish the names of the institutions by the study of whose methods we are to learn the much-needed lesson of economy, what may be predicated in general of low-cost as compared with high-cost hospitals?

The hospital which is conducted at less than $1 per day, says Dr. Ochsner, is perfectly sanitary and clean. Clean it may be, but of a certainty its sanitary standards and its standards of personal care of patients cannot be as high as those which ordinarily prevail in hospitals which spend three times as much. Its space allowances in wards and dormitories will be found to be less than those of most high-cost hospitals. There will be found in the cheaper hospital fewer separation rooms, recovery wards, and day rooms; less spacious balconies; a dearth of receiving, detention, and isolation wards. The utility rooms and ward kitchens will be observed to be smaller and less perfectly equipped. Have these details any relation to hospital sanitation or not? Besides, in a hospital which is conducted at a cost of $1 per day or less the nurses and the help are not comfortably housed, or perhaps a large proportion of the employees live outside of the hospital altogether. These things, I say, may be predicated in general of hospitals which are maintained at a cost of less than $1 per capita per day. Excep-

tions there may possibly be, but the rule holds; and the list of relative defects and disabilities may be considerably lengthened.

When a hospital is conducted at a cost of less than $1 per day, it is commonly the case that much of the work about the wards is done by unpaid helpers of a shiftless and untrained kind; the work of the hospital may even be intrusted in part to convalescent patients, whose prolonged retention in the hospital serves to mislead the reader of hospital reports by adding inexpensive "hospital days" to the institution's statistics of treatment, and whose domestic activities have the further effect of keeping down expenditures for wages. Where conditions of this sort exist the hospital may indeed be as clean as the high-cost hospital, but is its usefulness to its patients and the community the same?

To any experienced hospital worker who reads Dr. Ochsner's article many pertinent questions will suggest themselves. For example, Is the service of the low-cost hospital which Dr. Ochsner cites of the same acute character as that of the high-cost hospital? Are as many surgical operations performed proportionately in the one hospital as in the other? Is teaching done in both hospitals? Is the proportion of high-cost, but self-supporting beds—that is to say, beds occupied by private patients—the same in the two institutions? Are the same careful means (laboratory tests, x-ray examinations, etc.) employed for diagnostic purposes in the one hospital as in the other? Do both hospitals participate in the same degree in those scientific researches which can be carried out only in hospitals, and by means of which the interests of all hospital patients, and of the community in general, are so unmistakably promoted? These are matters that must be noted and allowed for in any intelligent and conscientious comparison of hospital costs. I challenge Dr. Ochsner to name any hospital conducting an acute service at a cost of less than $1 per day in which, in the particulars named, the service is of the same character as in any hospital of good repute whose average expenditures are $3.30 per day.

The care of the patient is intimately bound up with the nursing organization of the hospital. "Excellent care" implies nurses sufficient in number and properly trained. In proportion to occupied beds, are there as many nurses in the $1 hospital as in the $3.30 hospital? Are the nurses as well taught in the former as in the latter? Are the supervisors equal in training and competence?

In hospitals devoted to the treatment of acute diseases, and conducted at a cost of $3 per day or more, one finds invariably that the total number of attendants (doctors, nurses, and hospital employees of all grades) is at least equal to the total number of occupied beds. In other words, a hospital of 250 beds has in reality 500 inmates—frequently more, never materially less. In some of the very best and most carefully managed hospitals in this country the ratio of workers to patients is five to four, and the relative number of workers tends to increase from year to year as clinical departments are more highly subdivided, as the patients in given departments or ward units are more thoughtfully classified, as laboratory work increases in importance and variety, as therapeutic and diagnostic equipment is added, and as the regular work of the hospital is supplemented by social service work. Now, one may concede that good management, as compared with poor management, may accomplish equal results with a staff 10 percent or even 20 percent less numerous; it is inconceivable, however, that the number of hospital workers of all classes can be reduced 50 percent, and the care of the patients remain unaffected.

Let us assume that in Dr. Ochsner's high-cost hospital the ratio of workers to patients is 5 to 4, and that in the low-cost hospital it is 1 to 1, or 20 percent less. If in each institution one-third of the total current expenditure, approximately, is devoted to wages, one-third to food, and one-third to all other expenses, including fuel, building maintenance, repairs, and all forms of medical and surgical supplies (these proportions are common ones), there will be available in a hospital conducted at "$1 per day or less" from 30 to 33 cents per day, or from $9 to $10 per month, for wages for all classes of employees. In this average of from $9 to $10 per month there will necessarily be included the salaries of the superintendent of the hospital, the superintendent of nurses, the chief engineer, the chief accountant, paid medical officers, supervising nurses, etc. It goes without saying that the superintendent of the hospital and at least some of the other officials and employees will receive more than $10 per month; and therefore one is sure to find in the $1 hospital a great deal of wretchedly paid or unpaid labor, or a number of employees so much smaller than the number available for service in high-cost hospitals that the standard of care must be materially affected. Perhaps Dr. Ochsner's $1 hospital is a religious institution, where the bulk of the domestic and nursing labor is performed gratuitously. If so, what can possibly justify the comparison of its bookkeeping costs with those of an institution conducted on an entirely different plan; or, if the comparison itself be per-

missible, what justification can there be for charging against the carelessness of the medical staff differences in cost that are explainable on quite other grounds?

In high-cost hospitals expenditures for wages, as a rule, represent a somewhat higher percentage of the total expenses, and those for food a somewhat smaller percentage of the total expenses, than in low-cost hospitals. Let us say that the high-cost hospital cited by Dr. Ochsner, whose total per capita expenditure is $3.30 per day, is in a position to spend for food 90 cents for each day of treatment, or a little less than one-third of its available current funds. There being five workers to feed for each four patients, 90 cents must supply food for two and one-quarter persons. In other words, the food cost per person per day is 40 cents. On analysis it will appear that the sum spent for food for private patients is much greater than this (but, whatever it is, it is, or should be, repaid dollar for dollar by these patients, and therefore should represent no net expenditure on the part of the hospital at all), while the sum spent for ward patients will be found to be considerably less than the average, or, say 25 cents.

How do these figures compare with the cost of food in the $1 hospital, where, according to Dr. Ochsner, the service is just as good as in the high-cost institution with which comparison is made? Of the total available sum of "less than $1 per capita," from 30 to 33 cents will be available for the purchase of raw food. (I assume, of course, that the hospital is one in which wages are paid, and not a hospital where labor is performed gratuitously, because in the latter case, as I have already intimated, the whole comparison would be vitiated.) Now, this 30 to 33 cents must feed one worker as well as one patient; in other words, there is available for food in this institution, per capita, only from 15 to 16½ cents per day. If a comparison of the two hospitals is valid, the classes of patients treated in the two institutions must be approximately alike. Presumably, therefore, the average of 15 to 16½ cents per day includes the cost of food purchased for private patients, for whose food actual expenditure must necessarily be greater than this average sum. Allowing for the higher individual cost of the food served to private patients, resident staff, officers' table, etc., there remains for ward patients and for the common workers of the hospital a sum considerably less than the average of 15 to 16½ cents—say 11 to 12 cents. Does Dr. Ochsner contend that any hospital, however well managed, can feed its patients and servants at 11 to 12 cents per day, and do it as well as it is done where from two to three times this sum is available for the same purpose? In effect this is what Dr. Ochsner really claims. Moreover, he declares that the difference in the cost of service is due wholly to indifference to economic facts on the part of the medical staff.

What part does or can indifference to economic facts on the part of the medical staff play in determining hospital costs? The members of the medical staff, as a rule, have little to do with determining sources of supply of general merchandise, with fixing the number of employees, or with the determination of wages. They are intimately concerned only with expenditures for surgical equipment and supplies, and in high-cost hospitals about 10 percent of the total expenditures are devoted to these purposes. For example, a high-grade hospital, caring for both private and free patients, spent last year the sum of $400,000 for maintenance, the out-patient department excluded. Of this sum the expenditures with which the medical staff were in any way connected were the following:

Apparatus and instruments	$ 4,500
Medical supplies	2,800
Surgical supplies	1,500
Rubber goods	3,500
Drugs	8,600
Druggists' sundries	2,000
Wines and liquors	2,000
Dressings and bandages	11,000
Pathological department	2,500
Röntgen ray department	1,600
Total	$40,000

Now, let us assume (what is not in the least true) that one-half of this sum was wasted; it follows that of a total expenditure of $400,000, 5 percent, or $20,000, was wasted as the result of carelessness on the part of the staff, and 5 percent of $3.30 is 16½ cents. If, however, only one-quarter of the $40,000, with the expenditure of which the medical staff had anything to do, was spent in fruitless ways, then but 2½ percent of the hospital's gross expenditures are chargeable to bad practice on the part of the medical staff; and 2½ percent of $3.30 is only 8¼ cents. Will any well-informed hospital economist contend that even a careless staff is responsible for more waste than this? If so, let him show where and how the drug supply can be cut in two, the routine work of the pathological laboratory materially curtailed, x-ray work suppressed, etc., without injuriously affecting the patients. Dr. Ochsner, however, would charge against the medical staff the difference between "less than $1" and $3.30 per day, or $2.40 plus per capita, which would represent a waste of "millions and billions of dollars annually" in the United States alone.

Let Dr. Ochsner name his examples. The writer will be pleased to examine the workings of the two institutions, if permitted to do so, and will point out differences in their sanitation and in their care of patients which have apparently escaped Dr. Ochsner's eager but unobservant eye.

S. S. Goldwater.

Standardization of Hospitals.

Five years ago the writer presented to the American Hospital Association at Toronto a paper under the title of "Some Scientific Aspects of Hospital Administration," in which it was proposed to create some standards by which hospitals might measure their efficiency. Three years ago the writer presented a petition to the American Medical Association, in convention at St. Louis, asking for the creation of a Hospital Section for the avowed purpose of bringing about the same sort of standardization in hospital efficiency. Nothing was done about it in either association.

Two years ago the writer presented the matter again to the American Medical Association, in convention at Los Angeles, and the House of Delegates, by unanimous vote, created the Hospital Section avowedly because it believed in the writer's proposal to standardize hospital efficiency.

At the Atlantic City meeting in June, 1912, a committee was appointed by the Hospital Section of the American Medical Association to see what could be done about standardization. The committee was composed of Dr. Henry M. Hurd, chairman, Dr. Washburn, of the Massachusetts General Hospital, and the writer. At the meeting of the Surgeons of North America, in New York, in the November following, a committee was created, with Dr. Codman, of Boston, as chairman, and Dr. Kanavel, of Chicago, as secretary, to do what it could to assist in this work.

The Atlantic City committee held some meetings and mapped out a program. The matter was taken up with Surgeon-General Blue, of the Public Health Service, and with the United States Senate committee that has charge of the appropriations for and the activities of the Public Health Service. It was decided that, while the Public Health Service would be able to do this work of standardization, there was no money available for the purpose, and General Blue was obliged to decline. The committee then sought and obtained a conference with Professor Pritchett, president of the Carnegie Foundation, and this conference was held at Professor Pritchett's office in New York early in May last. It was believed by the committee that an agency that had performed so signal a service for medical education as the Carnegie Foundation had done, in its work and subsequent report on the standardization of medical schools, would be the best possible agency to perform a similar service in regard to hospital efficiency. The questions discussed at the conference were: (1) whether and why this work of standardization should be done; (2) who should do this work?—why not the medical profession?—why not the hospital people themselves?—why should the Carnegie Foundation be asked to do it? (3) the scope of the work, (4) the manner in which it should be done.

The result of this conference was that Professor Pritchett asked that the committee go back to the American Medical Association for its approval of the proposal to have the Carnegie Foundation perform this service for the hospitals, and asked, further, that this committee go before the American Hospital Association, at its next convention, and ask for the approval of that organization in the proposal to have the Carnegie Foundation do this work. In the event that both of these great associations should join in asking the Carnegie Foundation to do this work, Professor Pritchett agreed to present the matter to his board of directors at its October meeting and ask their consent that the money be appropriated and the work done.

At the Boston meeting of the American Hospital Association the matter was presented, first, in the writer's paper on "The Inspection and Standardization of Hospitals," and later was crystallized in Dr. Hurd's resolution, which was unanimously adopted by the association, asking that the Carnegie Foundation do this work.

The next step in the proceeding is to present the matter to Professor Pritchett, as agreed upon, and await the decision of the board of trustees of the Carnegie Foundation.

Just a word as to the scope of the work and the method of proceeding. While the Carnegie Foundation is created for the purpose of aiding education, and while a standardization of the hospitals could be undertaken by that organization only in so far as hospital efficiency concerned medical education, yet it may well be conceived that medical education would be aided in the largest way by establishing efficiency in the teaching hospitals, and that efficiency contemplates scientific care of the sick in all its aspects, so that in the broadest construction, if the hospitals are to be inspected and standardized, the scope must include every feature incident to the care of patients, because if students are to be taught in the hospitals—and nearly all effective teaching in the medical schools today is done in connection with hospital work—then they must be taught the employment of

every agency incident to the care of the sick, which includes the physical administration of hospitals as well as the scientific side.

A question arises as to how the problem shall be approached—whether hospitals shall be divided into large and small, teaching and nonteaching, general and special. It goes without saying that two things, in order to be comparable, must be of the same character. One cannot well compare a cow and a sheep, and one could not compare a hospital for the insane with an institution for the care of tuberculosis, except in a very limited way; and one could hardly compare the 20-bed hospital in a rural community with the great metropolitan municipal institution. So it seems that hospitals of the same character and class must be compared, one with the other, and standards must be set that will apply to these classes, in other words, the state hospitals for the insane must be in one class, the great general municipal hospitals must be in a class by themselves, and the large, privately conducted hospitals must be in a class by themselves. Maternity hospitals contain a sufficient number of special features to seem to warrant special classification, and so with children's hospitals. Sanatoriums must be classified by themselves.

It is manifestly impossible for any agency to inspect personally all the hospitals in the United States in any reasonable time, so that without question, if the Carnegie Foundation shall undertake this work of inspection and standardization, it must of necessity select small groups of institutions in each class and begin with their inspection and with the establishment of certain standards for each class. Having gone so far, the time will have arrived when perhaps a broader organization can be established and special agencies of one sort or another employed to continue the work in all parts of the country.

The above are only the individual views of the writer, and must not be construed as representing his committee or the American Medical Association, or the American Hospital Association, except in so far as concerns the general proposal of personal inspection for purposes of standardization.

JOHN A. HORNSBY.

The Boston Meeting.

The officers of the American Hospital Association who arranged and conducted the Boston meeting are entitled to the thanks of all who attended, as it was, from a business and working standpoint, one of the best meetings the association has ever had.

The experiment of dividing the meetings into two sections demonstrated the wisdom of a division of some sort; more valuable work was done than ever before. Many excellent papers were read, and the added time, due to the division which permitted two sections to meet at one time, allowed much valuable discussion that would have otherwise been lost, or so abbreviated as to lose much of real worth.

Four points stand out boldly as features of the Boston meeting: 1, the emphasis given to social service; 2, the willingness of members to discuss vital problems if they can have time enough to make their points effective; 3, the elimination of all social features of the meeting; 4, the unanimity with which the convention adopted Dr. Hurd's resolution asking for the standardization of hospitals, which means that the leaders of hospital thought are eager for some standards by which their efforts toward progress may be guided.

To the reflective observer at the convention one or two thoughts must come: while the excellently planned and admirably executed two-section meeting was a vast improvement over the old one-section-hurry-up, cut-off-all-further-discussion procedure, it may fairly be doubted whether the particular division into large and small hospitals is the best for everybody. There are perhaps fifty people who attend the conventions who are at the head of large, richly supported hospitals, and who have money at their disposal for experimental work in all directions—for the purchase of new apparatus, for new schemes of architectural arrangement, for new methods in administration. It should be the pleasure, as it is certainly the duty, of these people to bring to each convention the results of their empirical labors for the benefit of others—the many others who have not had the same broad opportunities for seeking out for themselves the best things. There were at Boston perhaps three hundred superintendents of small, struggling hospitals, and perhaps their chief object in attending the meeting was to hear what the big rich hospitals had found it best to do about many things. If these three hundred people had to attend the meetings of their own section, they would be deprived of very much valuable discussion. Might it not be best, therefore, in the future to arrange the sections on some other basis—as, for instance, according to general topics? The social service session at Boston was a good illustration of this. Those who were interested in social service knew just where and when to attend. Might it not be possible to have sessions on architecture, on equipment, on housekeeping, on the scientific departments, and so on?

A session on "floors" would draw a crowd, and one meeting on the purchase and use of supplies would be popular. At any rate, a division by topics would seem a better way than according to the size of the hospital.

Although due announcement was made that there would be no formal entertainments for guests at Boston, there was much disappointment, especially on the part of the women members and guests. Attendance on a big convention at the very "hub" of things is something out of the ordinary, and the ladies, nearly every one of them, went to Boston with all their finery in their trunks and never a chance to wear a rag of it. Men can gather over their cigars and steins in the grill rooms and have something of a social time, and little groups of them can dine together. But the ladies must have formal entertainments, which need not be expensive, or they have the alternatives of promenading the corridors of the hotel, which most women refuse, or of remaining in their rooms; or they may go out alone, which is distasteful to most women, especially in a strange city and at night. It may be safely doubted whether the elimination of all the social functions was a success.

The Modern Hospital—A New Entity.

Some one asked not long since what THE MODERN HOSPITAL would do for material when its writers had exhausted all the topics of hospital architecture, equipment, and administration, which he presumed would take three or four months. The query came from one who has administered a very large and splendid hospital for many years. The same question has been repeated many times since the first number of THE MODERN HOSPITAL appeared, with its imposing pages of splendid original articles.

Such a question is worth discussing. It involves another and much larger question: what is the modern hospital, and what are its limitations, and what is it to be in the years to come?

We learn from Mr. Bradley's paper, published in other pages of this number, that approximately only 13 percent of the sick of this country are cared for in the hospitals, while the other 87 percent remain in their homes. Dr. Jordan Lloyd, who made some exhaustive investigations recently, found that 11 percent of the sick of Birmingham, England, were treated in hospitals, bearing out Mr. Bradley's figures.

And yet we are told, with every evidence of truth, that, because of the vast accessories to diagnosis and treatment, available only in the hospital, a sick person cannot be adequately and scientifically cared for today in even the best appointed home. We know also that men and women of wealth are inclined, more and more, to give of their surplus wealth that the poor may also have the benefits of hospital care, and that these same well-to-do people are demanding that the poor and unfortunate shall have every aid of the hospital for the cure of their ills.

Then, what conclusions may we draw for the future of the hospital? Only this, that modern society is eventually to insist that there shall be a bed in a good hospital for every sick and hurt man, woman, and child. If Mr. Bradley's figures are correct, and if the present hospitals are sufficient for only 13 percent of the sick, then how many more hospital beds will be needed to care for the other 87 percent? Or take the other horn of the problem: if the 87 percent are to remain at home, and if they are, in the future, to have adequate care there, who is to see that they get it?

In either event, the hospital is manifestly to take on new duties and far greater obligations than we have heretofore dared to think about.

Already the hospital is a huge institution, and because it has so far outgrown its swaddling clothes it seems almost necessary to coin new words to express its larger meaning.

Only a very small part of the hospital today is confined within four walls, and for convenience we might divide it into three parts: 1, the part known as the hospital proper, for the care of the known sick; 2, the dispensary, whose duty is to determine what is best to be done for the unhappy who come for relief. Some of these are physically sick and are sent to bed in the hospital proper; some need the care of other institutions, such as the tuberculosis sanatoriums, or the psychopathic institutions, or a rest in the country, or a visit to springs or "cures" away from home; others have no physical ailment that need be counted in the presence of far greater mental or financial ills, and these need quite as serious thought and attention as though they possessed some definite pathology that could be determined under the microscope. For all these cases there is, 3, a separate factor or part of the hospital, which, for want of a better name, we call social service.

So that if we begin to sum up the duties of the modern hospital and follow it through all its ramifications, we must go into every home in the land, must invade every stratum of society. Wherever there is a human being, there is a health problem; and wherever human health is concerned, there is a duty for the hospital. Is the question one of sickness, the hospital is to

act; is it the prevention of sickness, the hospital must show the way. Sanitation, hygiene, pure food, good water—right living in a thousand ways, the hospital must lead and teach the people.

And yet one asks what is to be done about topics to discuss?

JOHN ALLAN HORNSBY.

Cost of Food in Hospitals.

Much painstaking effort has been made by careful administrators in this country to determine the proportionate cost of food for various classes of inmates of hospitals—doctors, nurses, common help, and patients. Not very satisfactory results have been obtained, perhaps for the reason that entirely separate kitchens are not maintained for the different classes.

In the large European hospitals, especially in Germany, where there are enough people in the institutions to justify the maintenance of separate living arrangements, apparently reliable figures are published, showing the exact cost per day per capita for the food for each class of hospital residents. In the Rudolph Virchow Hospital, Berlin, which has 2,000 beds, the cost of food is given as follows: for physicians, 2.59 marks; for nurses, 1.94 marks; for the ordinary help, 1.36 marks, and for patients 1.03 marks. This range means that, while food for the doctor costs 60 cents per day, that for the patient costs 25 cents.

The explanation given is that well people eat more than the sick, and the doctor, coming, as he usually does, from a higher social plane than the others, requires food of better quality.

These figures are of value in this country only in the large municipal institutions, where all the patients are "charity," so called. In the semi-private hospitals they are worth less because private patients, or those who pay, are very much better fed than the others. In any event, these figures are interesting, and will furnish food for much profitable study.

Cincinnati's Hospital Situation.

The appeal of Mayor Hunt, of Cincinnati, to the citizens of that city for a supplemental bond issue of $100,000 to finish the new $4,000,000 city hospital fell on deaf ears, and the issue was denied in the recent election. There are two warnings to Mayor Hunt in this action; first, that he cannot play politics with an institution as sacred to the people as a hospital; second, that the people are intelligent enough to see through that sort of public-spiritedness that prates of "duty" and "public service" and "loyalty to the best interests of the people," and at the same time permits a gang of political plunderers to exploit their magnificent new hospital.

THE MODERN HOSPITAL is not in politics, and has no wish to meddle in Cincinnati affairs, but it is very deeply concerned in good hospital service, and it feels that the greatest disgrace in this country today is the continuation in some cities of the practice of exploitation of the hospitals that are maintained for the care of the poor and the helpless.

There is a way to compel private hospitals to maintain a high order of service, by withholding patronage, without which they cannot live; but no such remedy exists in the case of the municipal institutions, and the only way left is to drive out of power any administration anywhere that permits those institutions to be plundered by the politicians and to be infested by incompetents in payment for votes. If Mayor Hunt will look closely at the wall facing his executive office, he will find there a scrawl—indistinct perhaps, but still decipherable—reading something like "Mene, mene, tekel upharsen."

And let other mayors take warning also. The time is come when the hospitals must be built and administered honestly, and entirely separate from politics.

The Small Hospital.

The small hospital is with us to stay a long time. A good many of us believe that the average patient, suffering from one of the commoner diseases, can get about as good care in a well-equipped, well-managed small hospital that has an able medical staff as he can in the million-dollar metropolitan hospital. There are undoubtedly obscure cases that require the expensive paraphernalia of the large hospital to help the doctor to a correct differential diagnosis, but only about one case in fifty is of that character. Let us, therefore, accord to the small hospital a definite place, agree as to its proper limitations, and recognize that it is not the size of the institution that counts, but the size of the people who are conducting it.

New Way to Raise Hospital Funds.

The Chicago **Record-Herald** correspondent at Salem, Ohio, wires his paper as follows:

"Twenty thousand masculine lips pressed those of six fair members of ordinarily well-to-do and locally prominent families in a unique scheme last night whereby $10,000 was raised toward a fund to endow Salem Hospital through the dispensing of women's kisses at $1 each. Men, young and old, stood in line to enjoy the osculatory performance. In all $31,232 was raised, which, with another campaign conducted two years ago, makes $100,000 the town has raised to build the hospital, which has just been completed."

MEETING OF THE AMERICAN HOSPITAL ASSOCIATION.

Fifteenth Annual Conference of the Association in Boston, August 26, 27, 28, and 29—Important Papers Presented and Followed by Interesting Discussions.

MINUTES OF THE MEETING.

TUESDAY MORNING.

Called to order by President Frederic A. Washburn at 10 a. m., August 26, 1913, at the Copley-Plaza Hotel, Boston, Mass.

Invocation by Suffragan Bishop of Massachusetts, Samuel G. Babcock.

Address of welcome by Councilman John J. Attridge, of Boston.

Address by President Washburn.

Report of Committee on Medical Organization and Medical Education, prepared by Dr. Rupert Norton, was read by Dr. R. B. Seem and discussed by Drs. Howard, Wilson, Winford Smith, and Kavanagh.

Motion was made by Dr. Fowler, and carried, that a committee of three be appointed to take up the suggestions made by the president and report at a later session.

A vote of thanks was extended to the president for his valuable address.

The president announced the following committees: on time and place of next meeting, Dr. W. J. Wilson, Miss Riddle, and Asa Bacon; on president's address, Drs. Fowler, Winford Smith, and John M. Peters.

TUESDAY AFTERNOON.

Paper read by Mr. R. M. Bradley — The Relation of Hospital Efficiency to the Efficient Organization for Home Nursing.

Paper read by Miss Mary M. Riddle—The Grading of Nurses.

Printed report submitted by Miss Emma Anderson—Report of Committee to Consider the Grading and Classification of Nurses.

Motion made by Dr. Kavanagh that the committee be continued to work on the report next year, and that Miss Riddle's paper be especially brought to their attention, and that $500 be appropriated to carry on their work.

Amendment offered by Dr. Mann that three members be added to that committee, these members to be men representative of larger hospitals.

Dr. Brown moved an amendment to the amendment to add three members, superintendents of hospitals, who are graduate nurses, which amendment to amendment was put to vote and lost.

Dr. Kavanagh then accepted Dr. Mann's amendment, which was changed to add to the committee the president of the American Hospital Association and one man superintendent representing the larger hospitals. The motion so amended was then carried.

Dr. Kavanagh gave notice that on Thursday morning he would move that section 3 of article IV be struck out of the by-laws, and to strike out of section 1 of the constitution the words, "the committee on nomination of officers, three members."

Dr. Kavanagh also moved that the election of officers be held Thursday morning, which motion carried.

WEDNESDAY MORNING.

A meeting of the Section of Larger Hospitals was held in the lower amphitheater of the out-patient department of the Massachusetts General Hospital.

The Small Hospitals Section met at the Copley-Plaza Hotel. In the absence of Miss Morrison, vice-president, the secretary, Dr. J. N. E. Brown, presided.

Paper read by Mr. G. W. Olson—How the Small Hospitals May Be Made Self-Supporting.

The paper was discussed by Drs. Cook and Fowler, Miss Jordan, Dr. Wheeler, Mr. Palmer, Miss Harty, Dr. Noyes, Dr. Franklin, Miss Goodnow, Dr. Simons, Miss Abbe, Dr. Micell, Mrs. Hayden, and Miss Featherstone.

Miss Margaret M. Moore, who was to have read a paper, being absent, the meeting adjourned.

WEDNESDAY AFTERNOON.

Small Hospitals Section continued.

Paper read by Mr. E. P. Haworth—What the American Hospital Association Can Do for the Hospitals of America.

Discussion by Drs. Fowler, Boyce, and Franklin, and Messrs. G. W. Olson and M. N. Borden.

Dr. Fowler moved that a committee of three be appointed to take up the suggestions made in the paper at the next meeting of the conference.

Dr. Micell moved as an amendment that Mr. Olson be placed on that committee, which amendment was accepted and the motion as amended was carried.

Paper read by Miss Mary Alberta Baker, R. N.—The Employment of Third-Year Pupils as Special Nurses.

Discussion by Dr. Harris, Miss Abbe, and Dr. Boyce.

WEDNESDAY EVENING.

Round table.

Miss Morrison still being absent, Dr. Brown again took the chair, and the question on the program was discussed

OFFICERS OF THE AMERICAN HOSPITAL ASSOCIATION FOR 1913–1914.

PRESIDENT,
DR. THOMAS HOWELL,
Superintendent New York Hospital,
New York City.

FIRST VICE-PRESIDENT,
MR. H. E. WEBSTER,
Superintendent Royal Victoria Hospital
Montreal, Que.

SECOND VICE-PRESIDENT,
MISS MARY A. BAKER,
Superintendent St. Luke's Hospital,
Jacksonville, Fla.

THIRD VICE-PRESIDENT,
MISS MARGARET ROGERS,
Superintendent Jewish Hospital, St. Louis, Mo.

SECRETARY,
DR. H. A. BOYCE,
Superintendent Kingston Hospital, Kingston, Ont.

TREASURER,
MR. ASA BACON,
Superintendent Presbyterian Hospital,
Chicago, Ill.

by the chairman, Miss Harty, Dr. Howland, Dr. Cook, Mr. Borden, Miss Thayer, Miss Perry, Miss Parsons, Dr. Kavanagh, Miss Goodnow, Miss Riddle, Mr. Olson, Miss Byrnes, Dr. Ball, Dr. Franklin, Dr. Simons, Dr. Souder, Dr. Davis, Mrs. Lewis, and Dr. Haworth.

THURSDAY MORNING.

Dr. Washburn presiding.

Report of the Committee on Membership was read and placed on file.

Dr. O'Brien was substituted on the nominating committee in place of Miss Keith, who had notified the president of her inability to be present.

The report of the committee to make recommendations concerning suggestions in the president's address was read by Dr. Fowler.

Motion to adopt was seconded, but the president ruled that, inasmuch as the adoption of the report would mean changes in the by-laws, it would have to lie over.

Dr. Fowler then gave notice that at the next session he would move to amend section 3 of article III, of the constitution by adding after the words "charities," in the fifth line, the words "hospitals, physicians, surgeons, pathologists, and superintendents of nurses."

Motion to adopt report was then put to vote and carried.

Report of committee to memorialize Congress was read and accepted.

Reports of the treasurer and auditing committee were read and accepted.

Motion by Dr. Kavanagh, of which notice had been given Tuesday afternoon, to strike from section 1 of article IV the words, "the president shall appoint a committee on nomination of officers of three members," and to strike out section 3 of article IV, which reads, "the committee on nominations shall," etc., was taken up for consideration and discussed by Drs. Babcock, Kavanagh, Hurd, and Fisher, and Miss Aikens. The motion was then put to vote and unanimously rejected.

Report of Committee on Out-Patient Departments was read by Mr. Davis and discussed by the president and Dr. Fowler.

Paper read by Mr. Sidney E. Goldstein—The Hospital and Dispensary and Social Reform.

The paper was discussed by Dr. Goldwater.

Paper read by Dr. Herbert J. Hall, of Marblehead, Mass.—Medical Workshops as a New Hospital Department.

THURSDAY AFTERNOON.

Dr. Fowler's amendment to the constitution, admitting to associate membership members of the staffs of hospitals, physicians, surgeons, and superintendents of nurses, was called up, put to vote, and unanimously adopted.

Report of Committee on Time and Place of Next Meeting was read by Dr. Wilson, the report recommending that the matter of the time of meeting be left with the Executive Committee, and that the place of meeting be Baltimore.

Mr. Olson moved as an amendment that St. Paul be substituted for Baltimore, which substitution carried, and St. Paul was declared to be the next place of meeting.

The Committee on Nominations reported the following nominees: for president, Dr. Thomas Howell, New York; first vice-president, H. E. Webster, Montreal; second vice-president, Miss Mary A. Baker, Jacksonville, Fla.; third vice-president, Miss Margaret Rogers, St. Louis; secretary, Dr. H. A. Boyce, Kingston; treasurer, Asa Bacon, Chicago.

On motion of Dr. Kavanagh, the report of the Nominating Committee was unanimously adopted, and the secretary instructed to cast the ballot of the association for the nominees.

Resolution submitted by Dr. Goldwater, instructing the Committee on Constitution and By-Laws for the ensuing year to prepare a revised constitution and by-laws, and to specially consider the desirability of providing for the appointment of a paid secretary, was carried unanimously.

Dr. Hurd offered a resolution for the inspection, classification, and standardization of hospitals, which was unanimously adopted. Dr. Hurd stated that it was his desire that the committee be appointed by the incoming president.

Paper read by Dr. Davis L. Edsall—Certain Bearings on Hospital Problems of Compulsory Insurance and Workmen's Compensation.

Paper read by Dr. Matthewson—The Function of the Hospital in Preventive Medicine.

The paper was discussed by Drs. Edward M. Brush and Bloomer, and Mr. Borden.

Paper partially read by Dr. Boyce and motion made that it be printed in the proceedings—National Insurance Act as It Affects Voluntary Hospitals and the Medical Profession of Great Britain.

Report of Committee on Hospital Administration was read by Dr. Babcock and accepted.

THURSDAY EVENING.

Paper read by Dr. Andrew R. Warner—The Place of a Social Service Department in a Medical Institution.

The paper was discussed by Mr. Borden.

PERTINENT POINTS IN THE ADDRESS OF PRESIDENT WASHBURN.

During this meeting a definite plan of inspection and standardization of hospitals will be presented to you. If this work is done under auspices in which we have confidence, it promises a most important step in advance. From the statistics collected we should learn the essentials of a model hospital of each class.

The hospital problems cannot be handled by hospital administrators alone; we need the help and close cooperation of our staff of physicians.

The professional departments of a hospital should each have a single head, with uninterrupted service.

Hospitals are in a particularly advantageous position to help eliminate social disease; able and loyal medical staffs are necessary to do this.

Expensive "hospital days" should not be wasted, either by patients waiting the convenience of the surgeon, or by unnecessary stay in the hospital from sepsis.

How are we to obtain the services of proper men?—only by paying them adequate salaries, and by demanding at least one-half of their time. Their private practices must be secondary.

No harm is done if these men interest themselves in the functions of administration. It hurts none of us to be checked up and given friendly criticism.

About the Small General Hospital.

Too many small hospitals are started without adequate provision for their support.

There is a tendency in some smaller hospitals for members of the staff to attempt surgery for which they have had no adequate training.

No hospital with low standards can ever permanently flourish or do good work.

We should all use our influence against the starting of a hospital until it has been clearly shown that it is necessary; that the location suggested best meets the need; that there is adequate support in evidence, and that its conduct is in the hands of those whose ideals are high and whose methods are practical.

Paper read by Miss Elizabeth V. H. Richards—Social Service in the Out-Patient Department.

The paper was discussed by Miss Cannon, Dr. Babcock, and the president.

Paper read by Miss Glenn—Social Service in the Wards of a General Hospital.

The paper was discussed by the president, Dr. Holt, Dr. Howard, Miss Cannon, and Dr. Hurd.

Paper read by Dr. Roger I. Lee—What Social Service Can Do for the Clinical Physician.

The paper was discussed by Dr. Davis, Miss Cannon, Dr. Press, Dr. Fowler, Mr. Borden, and Mrs. Lewis.

FRIDAY MORNING.

Dr. Washburn presiding.

Report of the Committee on Bureau of Hospital Information was read by Dr. Hurd and adopted.

Report of the Executive Committee on Question of Incorporation was read by Dr. Howland and accepted.

Report of the Committee on Hospital Finances was read by Dr. Mann was discussed by Dr. Howland, the president, Dr. Peters, Dr. Drew, Mr. Coddington, Dr. Souder, and Dr. Simons.

President-elect Dr. Howell was then introduced to the convention, and questions in the question box were taken up for consideration.

On motion of Dr. Boyce a vote of thanks was extended to the management of the hotel for the free use of the meeting room, also to Dr. Holt and members of the Committee on Arrangements, and Miss Goodnow for the noncommercial exhibit.

On motion of Dr. Hurd a vote of thanks was extended to the retiring officers, and especially to Dr. J. N. E. Brown for three years' efficient service as secretary of the association.

Adjourned.

DR. THOMAS HOWELL, PRESIDENT,
Superintendent New York Hospital, New York City.

INTRODUCTION.

Boston provided the best working program the association has probably ever had. There were a great number of extremely important papers that might well be classified under four heads:

1. Those dealing with hospital architecture and equipment, as tending to show the drift of thought among hospital people. There was only one paper that could be placed in this class—viz., that written by Dr. John M. Peters on "New Hospital Construction" and read before the Section on Large Hospitals.

2. Hospital administration. There were several papers under this head—viz., that of Dr. Norton on "Medical Organization;" that of Dr. Hollings, read before the Section on Large Hospitals, on "Record-Keeping at the Massachusetts General;" that of Mr. Olson on "Self-Support of Small Hospitals," and the paper on "Hospital Finance" by Dr. Mann.

3. Those papers that treated of social service, of which there were a great number.

4. The papers on nursing, of which there were more.

If there was a chief feature at the Boston meeting, it was the emphasis laid on social service in the hospital, and it might almost be said that the meeting was a social service meeting, notwithstanding the great amount of nursing talk of all sorts.

The meeting was held in the Copley-Plaza Hotel, and all the sessions were held there except one session of the large hospitals, which was held on Wednesday morning in the Massachusetts General Hospital. There were about 400 members present at the Boston meeting.

The meeting ran smoothly from start to finish, with just enough piquancy furnished by Rev. Dr. Kavanagh and Dr. Fowler, of Louisville, to keep up the interest. There was no friction of any kind and perfect harmony prevailed. Dr. Kavanagh at various times during the meeting objected to a Committee on Nominations of Officers, and proposed a change in the constitution to wipe out that committee, but he was not serious about it, and it seemed that his proposal came rather as an intended emphasis on the necessity for the association to broaden out into a better form of democracy. When Dr. Kavanagh's proposed amendment to the constitution was finally put before the convention, no one voted for it, and yet Dr. Kavanagh had made his point.

THE PROGRAM.

The president's address is published elsewhere in this number. After Dr. Washburn had finished reading his address, there seemed to be a desire on the part of the members to give it more than passing attention, and on motion of Dr. Fowler a committee was appointed to report back during the meeting, to give emphasis by way of recommendations to some proposals in the president's address.

The first paper on the program was that of Dr. Norton on "Medical Organization and Education." Dr. Norton was not present, and his address was read by Dr. R. B. Seem, assistant superintendent of Johns Hopkins Hospital. Dr. Norton's paper dwelt on the necessity for a properly organized medical staff that would look after the patients and also after the education of those who were working in the hospital, as well as the students of schools that were a part of its administration. Dr. Norton went into a good deal of detail about the proposal at Johns Hopkins Hospital to pay chiefs of the various scientific services and to demand of them the greater part of their time. Dr. Washburn, in his address, had already paid high compliment to Johns Hopkins Hospital on the work it had done in regard to the creation of a paid medical staff. Dr. Norton's paper dwelt on the expediency of admitting students to hospital wards, and went into details as to rules that should be enforced for the proper regulation of the student body.

The paper was discussed by Dr. Washburn, Dr. Howard, Dr. Wilson, Dr. Winford Smith, and others. Dr. Howard spoke of the intention to admit students in the Peter Bent Brigham Hospital. He thought the time would come presently when students in the wards of the hospital would

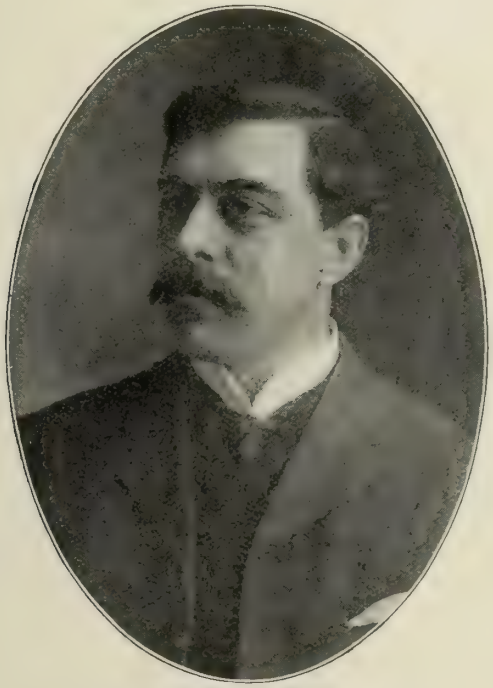
perform all the work now done by ward attendants. He thought special emphasis should be laid on the necessity to train students in thinking from the viewpoint of the patient's welfare, and he thought they should be disciplined carefully in courtesy, kindness, and attention to details for the patient's care and comfort.

Dr. Wilson, of the Contagious Disease Hospital, New York city, thought that if students were to be admitted to the wards, there should be specially trained teachers there instead of the ordinary visiting physicians, and that these teachers should preside at the class ward walks and that they should be the directors of the work of the students, whatever that work might be. Dr. Wilson thought that the expense of these teachers would be a considerable draft on the hospital resources, and that that feature should be very carefully considered in creating an organization for the handling of the student body.

Dr. Winford Smith doubted very much whether the cost was so serious as to justify very much emphasis on it, and he thought there were other credits to be made that would at least cancel the added cost proposed—not in the matter of money, but in service to the community, to the patients, and to the hospital itself. He doubted very much whether a specially trained corps of teachers could be kept in the hospital, because the students would be practically on duty in the wards all the time, and that it would be impossible to maintain a constant surveillance over their work by trained men; he did think, however, that paid heads of departments could vise all the work of students sufficiently to maintain a proper discipline and a high order of scientific care of patients. Dr. Smith spoke of the intern services in the hospital, especially those of Johns Hopkins. The interns who graduate in June begin their one-year service the following September, and they do not have a rotating service, but continue in one service during the whole year. The intern elects the service he is to take and continues at it. There are also "residents"—a physician, surgeon, gynecologist, obstetrician, etc.—and these men are paid salaries. Some of these men have served for five or six years, and Dr. Smith thought that kind of service tended to develop a form of specialism that gave added value to the services of the man in the hospital and gave added value to his earning capacity after he left there.

Dr. Shutt, hospital commissioner of St. Louis, predicted that in a few years the hospitals and medical schools of this country would be amalgamated and operated under the same management, that dormitories for all the students in the schools would be maintained near the hospital, so that the student body would be accessible at all times and the students could do most of the minor ward work. He thought the medical student should live in the hospital during his whole undergraduate period.

Before the adjournment Tuesday noon the president appointed Drs. J. W. Wilson, of New York; Asa Bacon, of Chicago, and Miss Mary M. Riddle, of Newton, Mass., a committee to select the next place of meeting; and Dr. Fowler, Dr. Winford Smith, and Dr. Peters, of Providence, as a committee to consider recommendations in the president's address.



MR. H. E. WEBSTER, FIRST VICE-PRESIDENT,
Superintendent Royal Victoria Hospital,
Montreal, Quebec.

MISS MARGARET ROGERS, THIRD VICE-PRESIDENT,
Superintendent Jewish Hospital, St. Louis, Mo.

The Tuesday afternoon session was devoted to the reading of Mr. Bradley's paper, which is published elsewhere in this number because of its very great importance, on the subject, "The Relation of Hospital Efficiency to the Efficient Organization for Home Nursing," and a paper by Miss Mary M. Riddle, of Newton, Mass., on the subject of "The Grading of Nurses." Miss Riddle's paper was very long and occupied an hour and a half in reading, but contained the best possible argument in favor of high standards for probationer nurses. The only concession Miss Riddle made to those who believe in two or more classes of nurses for different kinds of nursing service was in her reference to the Household Nurse Association of Boston, which is organized to supply whatever kind of care may be required for sickness in the home, the work to be done by graduate nurses, attendants, and household

helpers according to the needs of the case. Miss Riddle commented on this association and its work, saying that it had made some mistakes, but it had also done some good work, though its usefulness could hardly be said to be firmly established. Its purposes she admitted were of the best—whether it can accomplish them is now the question. She thought its proposal to do its work on a business basis added something to the possibility of its success. She thought the same was true of one of the civic associations in one of Boston's nearby suburbs, which does its work under the title of "Community Nursing and Mutual Aid Association." In this association a graduate nurse is furnished when required, and an attendant if only hard work as mother's helper is needed. The supervision of this class of nursing, Miss Riddle thought, foredoomed it to failure. She doubted whether housewives would be willing to turn over the supervision of their home affairs to an outside supervising nurse, as contemplated in this kind of service. Miss Riddle thought the greatest drawback to supplying different kinds of nurses for different cases was the attitude of sick people themselves, some of whom really do not need very highly trained nursing, but all of whom think they do, and none of whom would be satisfied with anything less than a highly trained graduate nurse. Besides, Miss Riddle doubted whether anyone was in position to say that the patient did not need skilled nursing, and she thought there would be a risk in giving him anything less than skilled nursing, no matter what the ailment was. Miss Riddle thought the great middle class, around which the whole nursing problem seems to revolve, is the most important class of people in the world, as well as the largest class, and that this class is entitled to the very best in nursing, as the world has to depend on this class for almost everything that is worth while.

Evidently Miss Riddle has not very much patience with the small hospital's nursing problem, especially the private hospital. She thought such institutions as tuberculosis hospitals are capable of helping themselves, as they do so now by employing specially trained attendants, women not necessarily specially trained in general nursing. She thought the nursing profession should help these special institutions, and should foster their ambitions to secure specially trained nurses without having to take the highly trained general nurse. So far as the small private hospital is concerned, Miss Riddle thinks that if these institutions were to fix their charges against private patients on a basis of what the actual service to them was, rather than on the amount that they might possibly get, she thought there would be more ground for patience with their nursing problems. She saw no reason why nurses should be sacrificed, or even exploited, for the purpose of securing more money to these institutions.

Miss Riddle thinks the status of the nurse's calling is somewhat precarious today, and that we cannot afford to make it more so by adopting any scheme which will make the intelligent, refined young woman turn from that profession, as she will if the standards are lowered. Miss Riddle thought that one of the reasons why there was a scarcity of trained nurses was because boards of health, public schools, sanitary commissions, states, cities, public and private corporations are taking the graduate nurse out of the general nursing field and into specialized work; and she thought the reason the nurse preferred this kind of work was because there seemed to be an opportunity for thought and growth and because it had high standards of admission to it, proving the truth of a statement made in the association last year that "the general esteem in which a vocation is held increases in direct ratio with the educational standards of that vocation;" therefore, she thought that the standards of nursing must be maintained in order to hold good women.

Miss Riddle thinks there is no such thing as an overtrained nurse, but is of the opinion that there are many nurses who are good women, who have good sense and good consciences, and who obtain a very good practical nurse training, and yet who fail when they go out into private practice because their fundamental training has not keyed them up to a proper discrimination between

DR. H. A. BOYCE, SECRETARY,
Superintendent Kingston Hospital, Kingston, Ont.

MR. ASA BACON, TREASURER,
Superintendent Presbyterian Hospital, Chicago, Ill.

their duties and those of the physician, and between what a nurse's duties are ordinarily considered to be and what they can sometimes be made to be.

Miss Riddle believes that any proposed grading of nurses is impractical because they cannot be kept in grades. She believes that it would be a dangerous system to inaugurate because it would encourage the short-course training school in the purely commercial hospital, thus exploiting the nurse taking training, lowering the standards, bringing discredit on the nurse's calling, and reducing the number of good women willing to take up the nurse's work.

The reading of Miss Riddle's paper was followed by the reading of the printed report of the committee on grading of nurses, which was appointed at the Detroit meeting of the association. That report has been published and everyone has seen it.

After Miss Riddle's paper had been read, Miss Anderson stated that the committee appointed last year had met a number of times and had considered the subject of nurse grading in all of its aspects, but that the appropriation had not been sufficient to allow of adequate discussion.

There was a great deal of talk concerning the next move to be made. Dr. Kavanagh proposed that the whole matter be laid over for one year, and that the committee be given an allowance of at least $500 for its work during the year. Dr. Mann doubted whether the committee as it stood is a representative committee, and he proposed to add three members to it, consisting of men who are representatives of the larger hospitals. There was a good deal of discussion as to whether the additional members to the committee should be superintendents of larger hospitals or whether the word "larger" might be left out. During the discussion Dr. Truesdale, who had been a member of the committee during the year, stated that he would refuse to serve longer because he was not in accord with a majority of the committee. President Washburn also stated that he had a letter from Dr. Bruce Smith, the other man on the committee, who stated that he also does not wish to indorse the committee's report. The whole matter of the discussion hinged on the disinclination on the part of the association to adopt the report of Miss Anderson's committee. The matter was finally settled by the adoption of a motion made by Dr. Mann that the president of the association and a man superintendent be added to the committee, that the committee be continued for one year, that an appropriation be made of $500 to pay for its meetings, and that Miss Riddle's paper be referred to that committee.

WEDNESDAY MORNING.

There were two meetings Wednesday morning, one of the large hospitals in the Massachusetts General Hospital, and the other of the small hospitals in the Copley-Plaza Hotel. The large meeting was that of the small hospitals in the Copley-Plaza Hotel. Mr. Olson's paper on "How the Small Hospitals May Be Made Self-Supporting," which was the first paper on the program, will be published in our November issue. It is a very able paper and takes up many administration problems of the small hospitals, and should be of very great help to superintendents and boards and medical staffs of these hospitals. Mr. Olson's paper elicited a long and highly interesting discussion. Dr. Cook, of Natick, Mass., thought the best way to have things done right in the small hospitals, both as to the conduct of the hospital's staff work, the administration, the financing, and all the other problems, was publicity. He thought that if everybody was told all about the hospital, it would create an interest in its affairs. Dr. Cook thought that almost the entire public was ignorant of how hospital finances are conducted. He said the people do not know that the hospitals give any part of their services free to those who have no money. The people suppose, he said, that physicians and surgeons taking care of the charity work in the hospitals are paid for their services. Dr. Fowler, of Poughkeepsie, N. Y., said it was astonishing how little even the most intelligent people in the community know about the financial conduct of their institutions. He thought they would give a great deal more money but for the fact that they are under the impression that every hospital has a great endowment, and that most of the money they ask for is extra and is due to some form of bad management.

The president tried to elicit some further information concerning the point in Mr. Olson's paper in which he recommended the so-called "open-door" hospital. The recommendation was so much at variance with the tenor of Dr. Norton's paper that the president said he would like to have about twenty opinions concerning the open-door hospital and the experience of about twenty superintendents about how they were getting along working under an open-door policy. Dr. Washburn stated that the larger hospitals and the municipal hospitals were opposed to the open door, and advocated the policy of a strictly closed hospital; he thought the case might be entirely different with the small hospitals and those in smaller communities. He wanted some discussion on that.

Miss Nettie Jordan, of Aurora, Ill., said the medical profession had tried in the Illinois State Medical Society to have what she called a "closed surgical clique," which would have ruled out the general profession from the surgical operations of the hospital. That plan fell flat, she said, and then the medical profession tried the same thing in the Illinois Legislature, where it also fell flat. She thought it would be impossible for small hospitals to conduct their institutions without the help of outside physicians, and that the hospital would have to be wide open. She said she represented a 30-bed hospital, and that there were three other hospitals in the town, and that the competition was very keen, and none of these hospitals could afford to have a closed staff. She thought that most superintendents could testify that the work done by the outside men was creditable to any hospital. She thought the reason why the medical profession of Illinois had insisted on the closed hospital was in order that all the surgery of the state would have to be sent to Chicago or some other large city. Miss Jordan spoke again on the subject of hospital finances. She had evidently been driven pretty hard to finance her institution, because the best she could do, she said, was to collect 95 percent, and that left the hospital short; so they instituted a "tag day" and cleared $5,000. She instituted a campaign of publicity—"got on the ground floor with all the newspapers." Then she instituted what she called a publicity campaign to raise money for the specific purpose of constructing a new building and she got $16,000 from 14,000 people.

Dr. Wheeler, of Worcester, called attention to the difference of opinion between Mr. Olson and Dr. Cook on the subject of the sources of revenue for a small hospital. Mr. Olson thought that the hospital supported by public taxation should not receive pay patients. Dr. Cook recommended an appeal to the town or county for funds to maintain these small hospitals. Dr. Wheeler agreed with Mr. Olson, and thought that a tax-supported hospital should not look for any part of its support from private patients. Dr. Wheeler believed in a hospital management conducted on a business basis, so that everything humanly

possible could be gotten out of the institution in a proper and independent, self-respecting way, and then, if there were any surplus funds, they could be applied to free work or charity.

Mr. Palmer, of Framingham, congratulated the reader of the paper on his advocacy of the open-door hospital. He had positive feeling on that point. His own hospital had had a wonderful success, and he believed it was chiefly due to the fact that every physician was welcome to bring his patient and take care of him in the wards and in the private rooms.

Miss Hartry, of Minneapolis, had been waiting a number of years for just such a paper as Mr. Olson's. Her own hospital, that of St. Barnabas at Minneapolis, had always been operated as an open hospital, but it had a staff of its own and welcomed outside physicians with their private patients. A year ago her hospital found itself in the peculiar situation of having to add a lot of young, active men as members of the staff or to open the hospital all the way. As an alternative, the board of directors appointed three members of their board, three physicians belonging to the staff, and the superintendent of the hospital, who should compose a committee of seven to take over the management of the institution. After trying this plan some months, she stated it seemed they could not find three doctors who agreed on the same thing and the idea had to be abandoned, and the hospital was finally opened wide in all of its branches. At one place in her talk Miss Hartry deplored conditions as she had found them. When she had finished, Dr. Washburn evidently thought he smelled a good story and he asked, "What was it that made you mourn, Miss Hartry?" "It is too long a story," she said. "Oh, tell it, please," the chairman insisted, and Miss Hartry told the following story: "In a closed hospital there are four or five men to please, and sometimes it is a little hard to please four or five, In an open hospital there are forty-five or fifty-five, as the case may be, and it is a little easier to please the forty-five or the fifty-five. At the same time I never quite could understand why any hospital—especially a hospital not operating for profit, not endowed, not receiving any government or city aid—should operate for five or six men; why these five or six men should, at no cost to themselves, ask any hospital to open a workshop for them where they could, as Mr. Olson says, in a morning make anywhere from $500 to $1,000, go away, leaving us the patient to care for and the burden of the financial expenses."

Dr. Noyes, of Columbia, wanted to reassure the last speaker that she need have no fear of the success of her plan of an open hospital. His institution had been an open hospital for five years, has no staff at all, and has no difficulty in pleasing the men, as they have found it far less difficult to please practitioners in a small general hospital when they all came in on the same basis than where some men are preferred over others. In reply to a question as to what effect the open hospital had on the nurses' training school because of the difference in the technic of different men, Dr. Noyes replied that in his hospital there was a corps of instructors for the nurses and that the doctors cut very little figure; the nurse in private practice had to nurse for forty or fifty doctors and he didn't see any reason why she could not nurse for forty or fifty doctors while she was training.

Massachusetts General Hospital—Orthopedic Ward.

Dr. Franklin, of Dallas, Texas, had had a rather different experience from the last few speakers. They had had a closed hospital for some years, but had a great deal of trouble; and they organized a staff, but still allowed outside physicians to come in with private patients, and they have had no trouble since. One speaker spoke of the difference in the death rate in the open as against the closed hospital, and cited two instances in which the death

rate was higher in the open hospitals than in the closed.

Dr. Noyes took issue with this statement, and doubted very much whether there were not some other circumstances on which the death rate hinged rather than that of the open or closed hospital, and he would want all the facts before conceding any such proposition. The president, discussing the question of the open-door hospital, thought that the two points concerned were the training of the nurse and the likelihood of her getting a poor training, or such a mixed training from men having different technic that she would be entirely spoiled as a nurse; the other point was the question of poor surgery in an open-door hospital. Every once in a while the president had heard of tragedies occurring in open hospitals, of cases being operated on by incompetent men. Miss Abbe, of Ashland, Ohio, told how her board of trustees handled the open-door hospital; no major surgery is allowed without consultation of three members of the staff, and the superintendent is also allowed to call in extra consultation even in medical cases.

Someone wanted to know whether the association had decided what was a small and what was a large hospital for purposes of such discussions as that at hand. The chairman thought no such division had been arbitrarily made, and thought that the association had never passed on the question.

Dr. Noyes created a laugh by suggesting that he thought the question of the large or small hospital was a state of mind; "all those who have problems to solve are small hospitals," he said, "and all those who have all their problems settled belong to the large hospitals."

WEDNESDAY MORNING SESSION OF THE LARGE HOSPITALS.

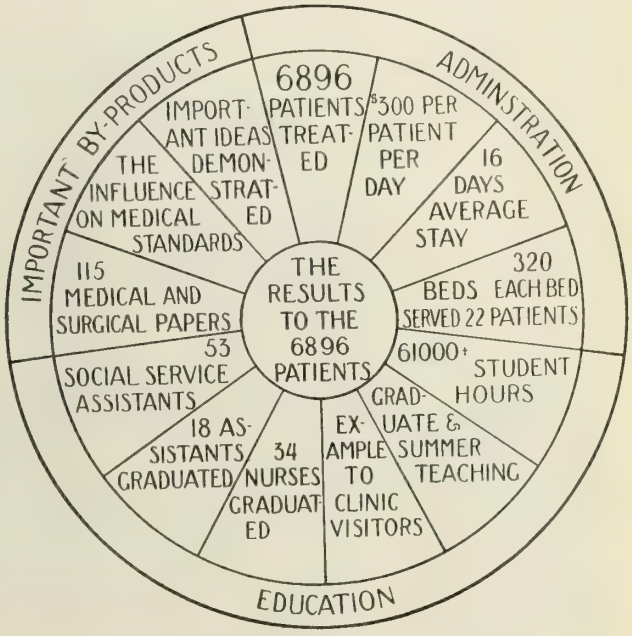
Dr. Hornsby's paper is published elsewhere in this number—not because it is a better paper than many others, or even as good, but because it is on a subject that is perhaps the most important issue before the hospitals of this country at this time, and because the Carnegie Foundation will have been asked to do the work of inspection and classification and standardization of the hospitals before the next number of THE MODERN HOSPITAL is issued, and it was felt that this subject ought to be treated in this number.

In his discussion of Dr. Hornsby's paper, Dr. Codman presented a diagram which is shown herewith. While his discussion was not exactly in line with the purposes of the paper on standardization, it had to do with hospital efficiency, which is the purpose for which standardization is proposed. Dr. Codman made as the hub of his wheel the 6,896 patients in the Massachusetts General Hospital, in which he is one of the surgical staff, during the year 1912. The spokes of the wheel are what Dr. Codman called the "products" of the hospital, and they had to do with the natural results, not only to the patients themselves, which he called "administration," but in the by-products and education, which had to do with service to the public and to students of medicine. Dr. Codman found fault with those who would weigh the results of hospital operation in terms of money. He thought there could be no proper comparison between the amount of money spent and the true results of the hospital's operations, and he felt that any scheme of standardization or classification or inspection must be based on these unfathomable and incalculable items, and said all these items must go into the discussion of the scope which hospital inspection must include if a proper and final reckoning was to be attained.

The general discussions following Dr. Hornsby's paper took a wide range, going to show that there are many indefinite and undefinable items in the administration of a hospital which must be taken into account if hospital efficiency is to be promoted by any inspection and attempt to standardize.

Dr. Washburn thought that Dr. Codman's chief point was that there must be some gauge of the result of the hospital's work, and, so far as the patients were concerned, the best gauge he knew of was a follow-up system, by which the natural results of the treatment of individual cases could be ascertained. He said he knew one hospital which had such a follow-up system, and patients were kept sight of for years to determine the efficiency of the service that had been given to them during their stay in the hospital.

Dr. Hurd found fault with Dr. Codman's analytical summing up of the results of hospital service. He thought Dr. Codman had magnified the indifference of the average hospital superintendent in matters of expenditure of



Products of the Massachusetts General Hospital, 1912.

money. He thought those things were not being neglected and that Dr. Codman was perhaps a little unjust in assuming that the hospital superintendent was always thinking about the dollars and cents phase of his management, and felt that there was another side to the proposition to which Dr. Codman had also not been quite just, and that was the sentimental side of the care of patients. He thought that there were many times when a patient who had ceased to actually need hospital care had to be kept there until certain arrangements had been made because he had nowhere else to go and because he could not be turned loose on the street with a splint or apparatus on. Dr. Hurd also knew hospitals where patients had been followed up year after year and where they were being constantly circularized with a view to determining just what service the hospital had been to them. Dr. Hurd was quite candid in stating that he did not know how inspection and standardization could be done to get the best results. He thought the method proposed of asking the Carnegie Foundation to do the work was the best way, and yet it seemed to him extremely desirable that, whatever scheme was adopted, there should be consultations

with the various committees that had devoted their efforts to bringing about this proposed movement in the interest of efficiency. Dr. Hurd said he had a resolution which would be introduced at the proper time, and which was the expressed sense of the Hospital Section of the American Medical Association on this subject of standardization, and which the American Hospital Association would be asked to approve, and in which the association would be asked to participate.

Mr. R. P. Borden wondered just what was going to happen with reference to the state and how the source of good to the state could be ascertained. He thought the proper method would be to assemble reports of state boards concerning the efficiency of the hospitals under their jurisdiction, establish a standard of excellence from these reports, and the most efficient hospital according to that standard would head the list. Mr. Borden thought that hospital reports could not be very largely taken for granted or believed. He had found in his own experience that hospitals entitled to state or municipal aid on a basis of the number of patients actually cared for were disposed to make false returns; so much so that he had found some hospitals whose returns showed that they were entitled to a certain amount of state aid when in reality an analysis of their figures, based on these returns, would indicate that they had cared for twenty times more patients than they could possibly have taken care of in their institution.

Dr. Goldwater spoke with reference more particularly to standards of efficiency in medical work, and he brought up a point which he has emphasized many times recently —viz., that any hospital advertising itself to take care of the sick should be equipped to take care of a patient, no matter what disease he suffered from or what complications supervened after his admission to the institution. He told of a patient in his own city who had been admitted to an eye hospital and he had afterward developed what the superintendent of the eye institution said was pneumonia. Dr. Goldwater had been asked to take the patient into Mount Sinai because the physicians in the eye hospital could not take care of pneumonia and they wanted the patient transferred. The patient eventually was transferred and was found to be suffering not from pneumonia, but from a very serious surgical injury that had been overlooked in the examination. He thought this institution had no business to take a sick person unless it was equipped to take care of that sick person, no matter what kind of sickness he had or acquired after he entered the hospital.

Dr. Howard thought that any inspection of hospitals by a disinterested, efficient agency would be a vast benefit to any hospital, because the subsequent report would give the hospital management an idea of how an outsider viewed the institution. He did not think that an inspection should be started in too drastic a manner. He thought that a beginning would have to be made, and that it would be a species of missionary work. He thought that every hospital needed inspection, and needed the criticism of some outside, but competent, agency, and these inspections would yield actual results, because the inspectors would go away from the influence of the superintendent of the hospital with whom they had been making the rounds, would be able to sit down and make an analytical summary of his institution and his administration that would be of great service to him.

Psychopathic Hospital, Fenway, Boston—Main Entrance.

In closing the discussion, Dr. Hornsby called attention to the fact that at the time of the inspection and classification of the medical schools by the Carnegie Foundation the sheer force of public opinion, as expressed by the enlightened medical profession, had compelled the acceptance of the standards proposed by the investigating agency, and he believed that any standards made now concerning hospital efficiency would have to be made by an agency which could command the respect of the public and whose final dictum as to hospital efficiency would be enforced by public opinion.

The next paper on the program was that of Dr. Hollings on "Record-Keeping at the Massachusetts General Hospital." This paper will be published in the November

issue of THE MODERN HOSPITAL. It is an important paper, and the system employed in the Massachusetts General Hospital can be made of great service, not only in the large hospitals, but even in the very small ones, because modifications of that system can be made that will lend themselves to any hospital, special or general.

The next paper read was that by Dr. John M. Peters. As predicted last month in anticipation of the Boston program, Dr. Peters' paper was a most valuable contribution. He took up a great number of hospitals that were in course of construction or that were making improvements, and picked out specific items that were worthy of emulation.

WEDNESDAY AFTERNOON.

One of the interesting topics discussed in the conference of the small hospitals on Wednesday afternoon was "The Employment of Nurses in Preference to Interns as Anesthetists." Dr. Brown presided at the discussion. He said there were two ways of giving anesthetics—one of them was by means of interns and the other by trained nurses. In some hospitals that he knew of there were trained nurses, as, for instance, the Mayos, of Rochester, and Crile, of Cleveland. He thought confidence on the part of the patient was a tremendous asset and helped the anesthetists immeasurably. He noticed that quick anesthetics and quick operations, after the manner of Crile, did wonderful things in preventing shock and nausea to the patient.

Miss Harriet Hartry, of St. Barnabas Hospital, Minneapolis, said they employed a trained nurse to give anesthetics, and she had been doing the work for six years, with a total of several thousand anesthetics, with no ill effects. She said the new University of Minnesota Hospital also employed nurses as anesthetists.

Dr. Fowler, of Louisville, said he was so radically opposed to accept either horn of the anesthetic problem proposed that he felt that anything he might say would not be harmonious. He contended that no nurse and no intern ever had sufficient experience to be an anesthetist, and that he was supported in his view by the American Medical Association, which is on record as demanding experienced physicians to give anesthetics. Dr. Fowler thought the nurse did not know enough about physiology and anatomy to be a good anesthetist. At the Louisville City Hospital there was a regular anesthetic staff who gave all of the anesthetics.

Dr. P. E. Truesdale, of Fall River, Mass., thought there was very much well-supported opinion that nurses were quite capable of giving ether. He did not know how far the American Medical Association would go toward the elimination of the nurse as an anesthetist, but he knew of a movement in the state of New York to eliminate her entirely from the position of anesthetist; only the future could determine whether the movement was a sane one or not. He thought the paper of Miss McCall, of Rochester, Minn., published three or four years ago, in which she reported 15,000 cases of anesthesis, was an excellent argument why the nurse has a place as an anesthetist.

Dr. Howland, of the Massachusetts General Hospital, thought the question had not been covered in any of the talks. There was a great deal more to anesthesia than simply giving ether or gas. In the hospital of which he is superintendent there is a department of anesthetics, with a trained physician in charge. This head of the department has an assistant, and these men decide the question of what anesthetic shall be given and how it shall be given. Then the duty of giving it is turned over to a nurse anesthetist, and in his experience this method had been a success; they do not usurp the physician's place, but are a valuable aid, and they are competent to give the anesthetic just as long as there is an experienced physician behind them to direct the work to be done.

Another interesting topic in the same session was, "Is a Preliminary Course Feasible Where the High School Standard of Admission Has Not Been Fully Adopted?"

Miss Thayer, of the City Hospital, Quincy, Mass., thought such a preliminary course would be an excellent thing but for the difficulty attendant on a determination as to just what such a course should consist of. Personally, she thought that this course should consist of chemistry, physics, hygiene, and bacteriology, but said it would be much better if such a preliminary course could be decided by some national organization, such as the American Hospital Association, and that the course should be very carefully thought out before being adopted.

Another interesting topic concerned "The Most Ethical Means of Advertising Small Hospitals."

Miss Mary Burns thought the best way to advertise was to keep the doctor who referred a case to the hospital informed of the progress of his patient.

Dr. Ball, of Philadelphia, thought the best way was to have on the medical staff the best men obtainable and in the training school the best women possible, and at the head of the hospital the best superintendent who could be secured, because, if these three administrative classes are right, the hospital will give efficient service and such service would prove the best possible advertising for the institution.

Dr. Franklin, of Dallas, Tex., and Dr. Simon, of Buffalo, agreed that efficient service was the best advertising the hospital could have. Dr. Souder, of Philadelphia, thought that courtesy in the business office and among all employees of the staff and nurses was the best asset a hospital could have, including promptness, accuracy, and courtesy at the telephone.

Dr. Hornsby, of Chicago, thought that efficiency was the prerequisite to the popularity of a hospital, but did not discuss courtesy, kindness, and attention to patients, because those attributes were a part of efficiency.

Mr. Borden, of New York, thought the question had not been answered, and that ethical advertising was some means by which the general public could know what the institution was doing. It was all right, he thought, to have a good reputation, but that reputation had to be advertised.

Dr. Fowler, of Louisville, thought the question ought to be twisted and that it should read, "How to Prevent People Who Are Able to Pay From Imposing on Charity." He thought it was a common and accepted policy on the part of the public, and that the people were honest in believing that they should have free treatment in any hospital that was supported by any part of the public, and that only education could disabuse their minds of that idea.

THURSDAY MORNING.

The Thursday morning meeting was largely one of business, and a number of committees reported, as follows:

REPORT OF COMMITTEE ON MEMBERSHIP.

To the American Hospital Association:

Your Committee on Membership begs to report that 176 applications for membership have been received, 173 of which appear to be eligible for membership to the Association; 118 of these 173 are superintendents of hospitals, 24 trustees, 16 assistant superintendents, and 15 members of charitable organizations, etc.

According to states, the applicants are divided as fol-

lows: Massachusetts, 34; Pennsylvania, 19; New York, 15; Canada, 14; Ohio, 14; Illinois, 13; Michigan, 9; New Jersey, 8; Minnesota, 5; Kansas, 5; California, 3; Georgia, 3; Kentucky, 3; Maryland, 3; Missouri, 3; Connecticut, Iowa, Maine, Oklahoma, South Carolina, Tennessee, Vermont, and Wisconsin, each 2; Alabama, Alaska, Louisiana, New Hampshire, Philippine Islands, South Africa, and Texas, each 1.

According to the secretary's list, there have been 28 names deleted from the membership as a result mainly of members dying or relinquishing hospital work.

Your committee feels bound to specially commend the efforts of one of its members, Dr. Jas. C. Johnston, of McAlester Hospital, Oklahoma, who at his own expense sent circulars to the superintendents of hospitals in his own and adjoining states, calling attention to the value of membership in the association, and strongly urging his fellow-workers to unite with the organization.

Your committee recommends the reception of the new applicants as members of the association.

Respectfully submitted,

J. N. E. Brown, for Committee.

that he would do so as soon as possible. That is the situation at present.

Your committee would, therefore, report progress, and recommend that a new special Committee on Bureau of Hospital Information be again authorized and appointed at this meeting.

Respectfully submitted,

Winford Smith, Chairman.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

To the American Hospital Association:

Your committee appointed to take under consideration President Washburn's address and his recommendations begs leave to report as follows:

1. We strongly recommend the general tenor of the address, and recognize it to be a very able contribution to the welfare and improvement of the American Hospital Association.

2. We heartily endorse the recommendation that the association has become too large and its personnel too complex to work to the best advantage in a single section, and

Boston City Hospital—Visit of the American Hospital Association, September, 1905.

REPORT OF COMMITTEE ON BUREAU OF HOSPITAL INFORMATION.

To the American Hospital Association:

When the special Committee on Bureau of Hospital Information was appointed, we found that the previous committee had succeeded in having introduced in both Senate and House a bill for the establishment of a Bureau of Information on Hospitals under the Public Health and Marine Hospital Service. No hearing had even been granted on the bill.

Through Senator Fletcher, sponsor for the bill, a hearing before the Senate committee was granted and held during the last session of the previous Congress, Drs. Hurd, Goldwater, Smith, and Skinner, members of the committee, being present.

The committee was well treated, and felt encouraged by the attitude of the members of the Senate committee. It was, however, pointed out by Senator Williams that the bill under consideration was unnecessary, inasmuch as the Public Health and Marine Hospital Service already had sufficient power to do this work. Senator Fletcher afterwards informed the chairman that Senator Williams was right, and that another bill should be substituted authorizing sufficient funds for the purpose.

In reply to repeated requests for action, Senator Fletcher has said that it had been difficult to find the proper opportunity to introduce the substitute bill, but

we recommend that the association at this conference should authorize the next president and Executive Committee to arrange to meet in as many sections as they may deem expedient.

3. We recommend that his suggestion that the association enlarge its membership by admitting hospital physicians, surgeons, pathologists, and superintendents of nurses as associate members be adopted.

4. We unanimously agree with Dr. Washburn that the ideal medical and surgical hospital work would be best attained by paid chiefs of staff, with continuous service; and, whilst this would apply to many of our larger hospitals, we do not think it practicable to recommend its application to all.

Respectfully submitted,

J. W. Fowler, Chairman,
Dr. Winford Smith,
John M. Peters.

REPORT OF COMMITTEE ON PLACE OF MEETING.

To the American Hospital Association:

Your Committee on Place of Meeting report that for the annual meeting in 1914 the committee decided in favor of Baltimore, believing that the knowledge to be gained there in hospital construction and administration will be of greater value than could be gained in the other cities

considered, and it was only on this account that the committee did not select St. Paul, which city was their second choice.

Respectfully submitted,

ROBERT J. MASON,
ASA BACON,
MARY M. RIDDLE.

REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS.

To the American Hospital Association:

In view of the growth of the association and change in the character of its membership, which has taken place since the constitution and by-laws were adopted, the committee recommends that the Committee on Constitution and By-Laws to be appointed for the coming year be instructed to prepare a revised constitution and by-laws, and to especially consider the desirability of providing for the appointment of a paid secretary.

COMMITTEE.

REPORT OF AUDITING COMMITTEE.

To the American Hospital Association:

We hereby certify that we have examined the books and vouchers of the treasurer of the American Hospital Association from September 24, 1912, to September 27, 1913, and beg to report as follows:

Balance on hand September 24, 1912	$1,693.35	
Receipts	3,364.74	$5,058.09
Disbursements		$2,940.12
In hands of treasurer		$2,117.97

Respectfully submitted,

JAMES R. CODDINGTON,
REUBEN O'BRIEN,
H. P. FROST.

Dr. Henry M. Hurd, chairman of the committee of the hospital section of the American Medical Association on standardization, offered the following resolution on standardization:

Whereas, the American Medical Association, through its hospital section, has expressed its approval of the advisability and desirability of classifying and standardizing the larger hospitals of the country to ascertain their fitness to furnish proper clinical facilities for the efficient teaching of medical students and the training of physicians and nurses; therefore, be it

Resolved, that the American Hospital Association cordially approves of the measure as one calculated to greatly increase the efficiency of these hospitals and to improve and standardize their work; and

Resolved, that the American Hospital Association hereby authorizes the appointment of a committee of three persons to consult with a similar committee of the hospital section of the American Medical Association and cooperate with it in promoting the measure.

Dr. Hurd's resolution was unanimously adopted.

There was a large amount of discussion concerning the proposed change in the by-laws providing for a nominating committee on officers of the association. A resolution that had been introduced the day before was presented for final action and was voted down with practical unanimity.

SOCIAL SERVICE SESSION.

One of the best sessions of the whole meeting was that concerning social service, which was taken up immediately after the business meeting Thursday morning. The papers of Mr. Davis, of the Boston Dispensary, and Mr. Goldstein, director of the Free Synagogue, New York, are so important that they will be published in full in the November and December numbers of THE MODERN HOSPITAL, and also the papers of Miss Glenn, Miss Richards, Dr. Warner, and Dr. Lee; the instructive paper of Dr. Herbert A. Hall is published in this issue. Without question, the social service phase of the Boston meeting was its most important feature; so important, indeed, that it will not be possible to do justice to it in one number of THE MODERN HOSPITAL, and it will be discussed in the next few issues.

PRESIDENT'S ADDRESS.[1]

BY FREDERIC A. WASHBURN, M. D.
ADMINISTRATOR MASSACHUSETTS GENERAL HOSPITAL.

The president of this association finds one of his most difficult duties is the preparation of the annual address. My first task when this duty became urgent was to read the messages of my predecessors in office. These addresses have been strong as a rule; they have placed the ideals of hospital administration upon a high plane; they have been worthy of the men who have written them. The topics discussed have been many. Among these I find certain definite recommendations which, as no action has been taken upon them, it is well to again emphasize.

In 1908 Dr. Goldwater was impressed with the fact that the association was becoming too large and its personnel was too complex to work to the greatest advantage in a single section. This is more true today than it was then. At the present conference your president and Executive Committee are attempting in a small way to try the experiment of section work. It will ask you to watch and see whether it is a success, and, if it is, to take action so that your next president and Executive Committee may have the authority of the association for repeating this step and perhaps adding other sections.

Dr. Goldwater also recommended the addition to our membership of hospital physicians, surgeons, pathologists, and superintendents of nurses. By the timely suggestion of Mr. Ludlam, our president in 1906, the association was broadened from a society of hospital superintendents to the American Hospital Association. Can we ever be all that name implies until we admit members of our staff and superintendent of nurses? The hospital problems of the future and of the immediate present cannot be handled by hospital administrators alone; we need the help and close cooperation of our staffs of physicians. As that is the case, they can best discuss these problems with us at our conferences as associate members of this body.

If superintendents of nurses were associate members, I believe that we should have a better understanding of each other's aims and purposes, and that harmony in the hospital world would be promoted. A training school section may very well be one important part of our annual conference.

Let me make a strong plea for such a change in our constitution as will again broaden our membership and make us truly the American Hospital Association.

In 1910 Dr. Howard, then your president, made a most important recommendation. He called attention to the fact that hospitals can best be placed upon a high plane and kept there if some system of inspection is adopted. We all need and would profit by friendly criticism by competent authority. Dr. Howard thought that this could best be done by the individual states. He was influenced in this belief by the successful work in this line done in insane hospitals by the Massachusetts State Board of Insanity. The objection to doing this work by states is that the effect of comparison is lost. We would wish to compare one large general hospital with another doing substantially the same work, to compare the standards of a hospital in the East with one in the West. During this meeting a definite plan for such inspections will be proposed, and the association will be asked to express its approval or disapproval. To me this scheme of inspection, if it can be worked out under auspices in

[1]Read before the American Hospital Association at Boston, August 26, 1913.

which we have confidence, promises a most important step in advance. From the statistics gathered we should eventually learn the essentials of a model hospital of each class. Hospitals would soon learn that a low per capita cost is not the first requisite; that high-grade modern work needs first-rate personnel in all departments, complete system of records, all modern contrivances for scientific research, and a spirit of investigation and teaching. How better can this be brought out than by comparison of hospitals trying to do a similar grade of work? It is, of course, essential that this should be done by a person with the requisite hospital knowledge, and in a spirit of the utmost fairness. Hospital trustees would welcome friendly criticism and suggestion, and the information that their institution is not in all particulars the acme of perfection would do them no harm. When this plan is proposed, I bespeak for it your careful and best thought and favorable consideration.

I now come to the subject upon which I wish to lay special stress in this my presidential message to you—*good organization the prime requisite for medical and surgical efficiency.*

We have to thank John Hopkins for the introduction into this country of paid chiefs of medical and surgical services, with continuous duty.

The great professional departments of a large modern hospital should each have a single head, with a service uninterrupted except for the necessary vacation. This makes possible an effective planning of the work. These heads of departments—or, when the departments are too numerous, representatives of them—to make a committee of not more than five or six, meet with the superintendent of the hospital and consider the problems of medical and surgical administration and the great questions of the medical and surgical policy of the institution. The superintendent should be required by the rules of the trustees to be present at their meetings also. Here we have an efficient organization. The superintendent is able to get the advice of the ablest men on the staff in the many problems where he needs such advice. He is the agent of this small representative body of the staff, of which he is a member, in carrying out their orders where they probably have jurisdiction. By his presence at trustees' meetings he is able to clear up many points which are not entirely clear to his board and to turn their thoughts toward the problems which need their consideration.

Here is an organization which will give us efficiency to meet the great questions which are pressing upon us. Preventive medicine—how can the hospital best help? How cooperate in the prevention of occupational diseases? Social service—how far are we warranted in going? What shall be our attitude toward workmen's compensation and other forms of insurance which affect hospitals? Hospitals are in a particularly advantageous position to help eliminate social disease. Clearheaded judgment is required in this. How shall we steer our course so as to best protect the community at the same time that we guard the rights of the individual and retain his confidence? These are a few of the questions.

We hospital superintendents need all the aid we can get. The staff is a better staff if a small representative committee knows and discusses these hospital problems, and advises and acts upon those subjects over which it properly has authority.

In some hospitals there exists jealousy of the staff by the superintendent, and jealousy of the superintendent by the staff. There will be no better way of doing away with this than by creating an organization which will make trustees, staff, and administration pull together for the good of the whole institution. The chief of a medical or surgical service can no longer give what the modern hospital requires by visiting his patients for an hour or two daily. The hospital should demand that each chief shall devote at least half of each day to its services —that private practice shall be secondary. In this way only can we get the highest efficiency. The ideal chief of service should have youth, yet his judgment must be mature. He must have vigor and enthusiasm. He must be just and generous in recognizing and promoting the efforts of his subordinates. He should be able to plan pieces of investigation for his staff and stimulate their accomplishment. He should see to it that the expensive "hospital days" are not wasted either by patients waiting the convenience of the surgeon for operation or by unnecessary stay in the hospital from sepsis.

How can we obtain such services of such men? Only by paying them adequate salaries. The standard of efficiency of an entirely unpaid medical staff has in many instances been high, but it does not meet the requirements of the present day.

You will perhaps ask me what concern this is of the hospital administrator who is not charged with the treatment of patients. My reply is, that the modern medical administrator of a hospital is not doing his duty by the community or by his trustees by simply attending to the housekeeping or by limiting his duties and responsibilities, as they have often been limited in the past. By acting with a small medical board he should see to it that nominations to the trustees of the men to fill vacancies on the staff are the very best possible, and that when these men are appointed they work for the greatest efficiency of the hospital and not for their personal aggrandizement. The superintendent of the modern hospital, to have the highest efficiency, must keep in touch in a general way with the problems and progress of medicine. The medical board may make efficiency tests of the work of the various departments, or it may delegate this work to a committee reporting to them. Just as it is well for a hospital to submit to inspection and criticism, so it is of advantage to have the different departments examined. In this way we may stimulate careful productive work and prevent slipshod work.

This committee may, for instance, take the records of a number of cases of a certain sort in one out-patient department and examine them to see if the patients received a thorough examination; if all the laboratory tests were made; how many visits there were; the result of treatment, and whether advantage was taken of all the facilities for treatment furnished by the hospital. No harm is done if this committee interests itself in some of the functions of administration. It may well watch the admission of patients in the out-patient department; see if there is unnecessary delay; if applicants are handled with kindness and good judgment. If these duties are not well performed, no one is more desirous of knowing it than the superintendent. It hurts none of us to be checked up and be given friendly criticism.

Let us, then, impress upon our trustees the necessity of paying adequate salaries to these chiefs of service, for we cannot demand from them the work we need until we are prepared to pay for their time. This does not at all mean that we are to throw away the voluntary work of men who make their living by practicing medicine and surgery. Their services are of the greatest value to the

hospital, and the hospital work is of the greatest value to them. The community needs that they should have the experience which only the hospital can give. Inasmuch as the hospital is necessarily secondary to their private practice, they must be content to work under the leadership of those who are paid to make the hospital work their first interest.

My message to the larger hospitals is, then: give more attention to medical and surgical efficiency, and to that end get the right men for chiefs of service and pay them adequately to devote a large measure of time to the hospital.

A word about the small general hospitals. I recognize that much admirable work is done in these institutions. I believe, however, that sometimes too little thought is given to the community need when such a hospital is started. Often a hospital could be erected at a central point which would serve several towns and be able to command better work than could several smaller institutions in the various towns. There is a tendency in some of the smaller hospitals for members of the staff to attempt surgery for which they have no adequate training. In some places this has been a crying scandal. Medical associations are now proposing to license surgeons. This will help a great deal, but there must be developed a public sentiment which will make ignorant surgery impossible. A surgeon of small experience must learn that it is no disgrace to admit that a given patient's chances are better in the hands of another man and transfer the invalid to the metropolitan hospital, if feasible.

Well authenticated report comes to me that in some hospitals in certain sections of the country the standards of deportment, decorum, and, in some instances, even decency, are low. The relations of staff and nurses are altogether too intimate. No hospital with low standards in this particular can ever permanently flourish or do good work. I wonder if this has anything to do with the difficulty of some of these hospitals in getting nurses. To any of you who know that I am justified in making these charges, I leave the answer to this question.

Too many small hospitals are started without adequate provision for their support. The result is a constant struggle and a probable attempt to make the unfortunate nurse in charge carry a greater burden than anyone should be asked to carry, both in hours of work and responsibility.

We should all use our influence against the starting of a hospital until it has been clearly shown that it is necessary, that the location suggested best meets the need, that there is adequate support in evidence, and that its conduct is in the hands of those whose ideals are high and whose methods are practical.

In 1905, when this association last met in Boston, I well remember hearing an honored superintendent of long experience urge that meetings should be held once in three years, because all the subjects of interest to hospital superintendents had been pretty thoroughly discussed. This was just before any adequate realization of the expanding work of the modern hospital and the responsibilities of its administrator. In selecting topics for my words to you, I have been embarrassed not by the paucity of interesting subjects, but by their multiplicity.

I thank you for the honor which you have conferred upon me in making me your president, and it is my most sincere wish that this meeting may be productive of benefit to the hospital world.

Standardization of Medical Schools.

Probably the A. M. A. Council on Medical Education "builded wiser than they knew" when they planned their campaign against inadequate, inefficient and mercenary medical schools which were filling the ranks of the profession with incompetents, says the *Southern Medical Journal.*

The results remind one of the old story of the boy who plucked a pebble from the mountain side and started an avalanche that changed the face of nature.

Not only have the weak, unequipped schools of medicine sought to prolong their existence by uniting with stronger institutions, but in many places where there were two or more reputable colleges competing with each other the effect of the movement has been to cause their consolidation into one strong institution, splendidly equipped and prepared for work of the most admirable character.

Untrained Trustees.

"Very often trustees are men who know nothing whatever of hospital management, who have to be educated in their job, and, once they have become really useful members of the committee, they unfortunately sometimes fail to gain reelection, and the process of education has to be gone over afresh, to the detriment of the hospital," says *The Hospital* (London). "With a strong chairman, difficulties can be tactfully overcome, but it makes the work of managing a hospital more difficult rather than easier; to put it quite bluntly, the real management of a hospital has to be done 'in spite of,' not 'by means of,' their assistance. Where the body of governors is very large and the number of their representatives on the committee is proportionate to their numbers, there is often fussy interference with subordinate officials, nurses, etc., and discipline is undermined."

Legality of the X-Ray.

Very much has been written about the legal status of x-ray plates. For a long time x-ray plates were not allowed in evidence on the ground that their identification was difficult, and the litigant was not in position to know or to prove whether the plate shown was that taken of himself or some one else. More recently methods have been found to satisfy the court on the question of identity, and a number of cases are on record where x-ray plates have gone into evidence.

Now comes up a new point. A judge in Florida appointed a physician to make physical examination of a woman who was suing for personal injury. The physician wanted an x-ray picture, and the woman refused on the ground that she would not be examined in the presence of a third party—the radiographer. The court decided that she had the right to refuse to allow anyone except the appointee of the court to examine her, but he also held that the opposition had the right to an adequate examination, and continued the case until the woman made up her mind to submit to such examination. The case at this stage went to the Supreme Court, which sustained the lower court, but went further and held that the remedy was for the lower court to appoint another physician to assist the first one, and such assistant might be a radiographer as well as physician. In this state of the case the woman will now have to submit to an x-ray examination or abandon her suit.

FOREIGN CORRESPONDENCE

LONDON LETTER.

King's College Hospital—Change of Site and Present General Arrangement.

London, September 4, 1913.

Not a few of those who visited London on the occasion of the recent congress took the opportunity of inspecting the "new" King's College Hospital that has been for several years past gradually rising at Denmark Hill, and that was formally inaugurated by His Majesty only a few weeks ago. Many others will doubtless have heard, or read, something about the new building; but, since several important questions have been raised—or, perhaps, it would be more accurate to say have been settled—by the completion of the task to which the governing body of the hospital first addressed themselves several years ago, it may not be without interest to your readers that I should give some detailed account of what has been done. This, by the courtesy of the secretary, I am now enabled to do. The "old" King's College Hospital—that wherein Fergusson and Lister operated, and such physicians as Bentley Todd and George Budd labored—was really an outcome of the medical department of King's College, an institution founded by royal charter in 1829 "for the purpose of giving instruction in the various branches of literature and science and the doctrines and duties of Christianity as the same are inculcated by the United Church of England and Ireland."

As the college, so long and so splendidly housed in the Strand, gradually developed, and the medical school grew, it was found that hospital practice in the vicinity was, to use the words of the old minute book, "indispensable for the complete education" of the attendant medical students. Steps were therefore taken to found a public hospital in the parish of St. Clement Danes, and in the year 1839 the first King's College Hospital, with 120 beds, came into existence on the site of the old St. Clement Danes Poor House. Ten years later the first hospital was rebuilt at a cost of £50,000, and from the day of its opening until July 15 of the present year continued its beneficent work of healing, the doors being never closed to any deserving case.

But in the days when "King's" was first built its site was in one of the worst quarters of London. Here was a vast congeries of slums and rookeries, with wretched lanes and unsanitary houses, and lurking places of disease, vice, and crime that had existed since the days of the Great Plague and the Great Fire, and that had steadfastly maintained the worst traditions of that Alsatia familiar to all readers of the "Fortunes of Nigel."

In the '70's and '80's, however, an enormous and a far-reaching change was initiated by the clearances incidental to the erection of the Royal Courts of Justice, close to "King's," in Clare Market.

Whole streets were swept away and new arteries for traffic were driven through congested areas, while later, other street improvements, culminating in the opening up of what is now known as Kingsway and as Aldwych, completed the transformation from almost medieval squalor into what is now one of the most splendid quarters of London, imposing with the palaces of jurisprudence and of pleasure, crowded with fine theaters and busy with the activities of a world-wide commerce.

Such changes have involved consequences little thought of, for, now, just as was the case fifty years ago, there are within three-quarters of a mile of the old "King's" three great general hospitals—St. Bartholomew's, Charing Cross, and the Royal Free. Then the accommodation available was not more than sufficient for the needs of the local population; now, with the abolition of the slums and the gradual disappearance of the resident population—since, save for those engaged in newspaper offices and in theaters the district is almost deserted by night—these great hospitals have come to serve not so much local as metropolitan, if not national, purposes. Yet, until a few months ago the huge industrial population of transportive London—south of the Thames—was served only by two large general hospitals—St. Thomas and Guy's.

These points will appear more clearly if reference be made to Fig. 1 of the accompanying illustrations. Now, some twenty years ago a select committee of the House of Lords, recognizing these facts, urged that at the first opportunity either a large general hospital should be built in the midst of this "unprovided" district, or that one of Central London's existing hospitals should be transferred thither.

Various circumstances—and among others certain developments in the organization of medical education in London—determined the Council of King's College, after mature consideration, and with the strong approval and support of the Committee of King Edward's Hospital Fund, to remove the hospital from its depopulated area to South London, where it would serve the needs of some million and a half of the very poor. Difficulties were happily removed, and through the generosity of Viscount Hambledon—better known, perhaps, as the Hon. W. F. D. Smith, chairman of the hospital and of the removal committee—a fine site of twelve acres at Denmark Hill became the property of the institution. This site is a fine one in every sense of the word, for, although in the very center of a densely populated and penurious area, it is on an eminence immediately adjacent to the lovely grounds of Ruskin Park, one of London's finest public open spaces. So not only are the immediate surroundings pleasant, but healthful, and, while the hospital is placed where it can best fulfill local necessities, the absurd incongruity of bringing special cases from a distance to treatment among the crowded streets of Central London is at once abolished. This momentous step of removal having then been decided upon, and the question of site having been so happily resolved, the submission of plans was invited, and eventually a design prepared by Mr. W. A. Pite for a hospital of 600 beds was accepted.

Building operations commenced in 1908, the contractors being Messrs. Foster and Dicksee, of Rugby, and have continued ever since. Of the general architectural character of the building the elevation of the administration block (Fig. 2) will afford some idea. The style is, perhaps, somewhat vaguely spoken of as that of the English renaissance; it is, with variations, that of many mansions

erected during the earlier years of the eighteenth century, and is one, I fancy, pretty well known in England. The materials employed are, for the most part, yellow brick of the kind known as "London stocks," with red dressings, and a moderate use of Portland stone. The roofs are mainly flat and of asphalt, but where this is not so they are covered with green Westmoreland slates, which

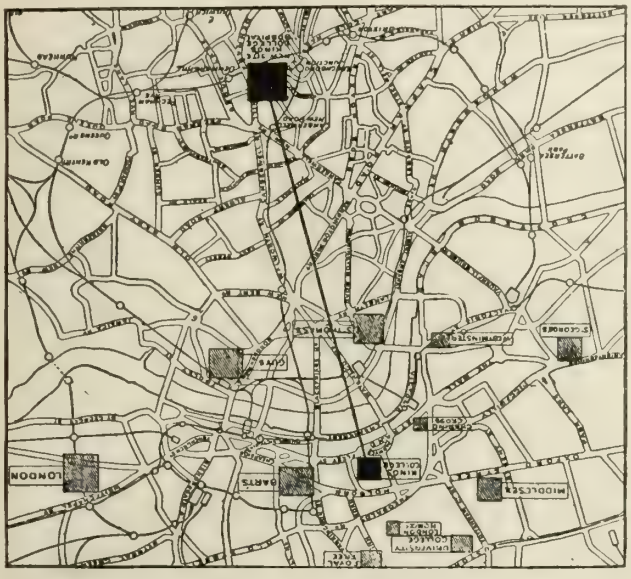


Fig. 1. The two sites.

add a picturesque touch to the building. The composition of the various frontages has been so designed that what little stone has been employed in them has been artistically massed, thus giving greater breadth of treatment.

The illustration (Fig. 3), giving a ground plan, for which also I am indebted to the courtesy of Mr. Tunnard, the secretary, will make the following details clearer than any verbal description:

The administration block which faces Bessemer Road, contains on the ground floor the secretarial offices, board room, resident medical officers' quarters, and a spacious dining hall for nurses. On the first floor are the matron's office and quarters, a class room, and nurses' sitting and bed rooms. The floors above contain nurses' and maids' bed rooms.

The kitchen, which has a fine reinforced concrete roof, is on the basement floor level, between the east and central parts of the administration block. Diet lifts will convey the food to the various levels of the main corridor, whence it will be wheeled on trolleys to the various wards.

This main hospital corridor runs the whole length of the building, linking up every part of the hospital, and is very nearly 900 feet long. From this corridor on the south project the ward blocks, of which five out of the eight provided for in the complete scheme are already built. The two central ones are the King Edward VII. and the King George V. Between these are the chapel, with linen department beneath it, and the power station. The administration block is on the opposite side of the main corridor. Owing to the conformation of the site, the lowest wards are on the first floor level of the administration block.

The chapel is entered through a narthex behind the main staircase, and it has seating accommodation for 250. The roof is supported on ferro-concrete piers, and the keynote of the decorative scheme is simplicity. The organ, pulpit, stained glass windows, and some of the seats have been transferred from the chapel of the old hospital. The fittings of the chapel are eminently worthy and dignified, and have been obtained in great measure by the generous endeavor of the sister matron and nursing staff of the hospital.

The power station, an important part of so large a building, is exceedingly interesting. Access to it is gained through basement corridors in the two central ward blocks. Here steam heating for the whole building is generated in the boiler house, and the electric power is generated in the engine room. There is also a destructor and a refrigerating and cold storage department. Electric clocks and an automatic telephone system have been installed. The magnitude of what we may term the engineering details of the undertaking is impressive. Thus, the provision of the plant for generating and distributing electricity and supplying heat and hot water to the hospital involves a very large installation. In this case it has been found advisable to generate the electricity by dynamos driven by Diesel oil engines of 250 kilowatts capacity. The waste heat from these is utilized partly in partially heating the hot water before passing to the calorifiers, and partly in heating air before its introduction to boilers which are used for providing heat and hot water. These consist of three Lancashire boilers capable of evaporating 16,500 pounds of water per hour, and four calorifiers of suitable capacity for supplying the whole of the hot water.

The heating is done by low-pressure steam, all the condensed water being returned direct to the boilers, and involves eighteen miles of steam piping and seven miles of hot water piping, the total number of radiators exceeding 1,000. There are over two miles of electric mains and submains, while the wiring to supply the electric lamps of a total of 93,608 candle power will amount to nearly a hundred miles. To cool the meat store and other rooms to a temperature of 28° F. to 35° F., as well as to provide the

Fig. 2. King's College Hospital, Denmark Hill—Administration block.

ice required for the hospital, a plant has been installed of a capacity equivalent to the manufacture of ten tons of ice per day. In addition there is a large number of electric fans for controlling the mechanical ventilation of the hospital. Each room is supplied with an adequate amount of fresh air, introduced through openings behind the radiators, so that it enters the building at a temperature which will prevent draught.

The casualty department provides for the immediate treatment of major and minor casualties, both medical and surgical. The examining rooms are placed on each side of the waiting hall. A separate entrance, leading to the surgery, is provided for the admission of serious accidents. On the first floor a small observation ward, complete with ward kitchen, etc., is provided for the reception of urgent cases which are desired to be kept under observation prior to being admitted to the ward proper. This ward contains 8 beds, each being placed in a separate glass-screened cubicle.

The bathing department on the ground floor provides for the treatment of patients with various medical baths. On the first floor is the electrical, x-ray and massage department.

The out-patients' department is entered through registering offices to a large waiting hall, 93 by 42 feet in size, with a permanent refreshment buffet in the center. On each side of the hall there are corridors, that on the north giving access to the surgical consulting rooms with operating theater, and the ophthalmic department with operating theater; that on the south to the children's department (with separate entrance for whooping-cough cases), the medical consulting rooms, and throat and ear department. The whole is so arranged that patients, when they have seen the doctor, do not need to retrace their steps to the waiting hall again. Above the rooms on the south side is the dental department, which is finely lighted; and beyond the waiting hall, on the ground floor, is the gynecological department. From the side corridors access is gained to the dispensary waiting hall, out of which leads the almoner's department. The patients receive their medicines through serving hatches from the dispensary, and then pass out of the building by another corridor. Thus the traffic stream in each corridor unites in the dispensary hall, and from that point leaves the hospital. The dispensary itself, behind which are dispensers' apartments and teaching laboratory, with various manufacturing departments and stores, is in the basement, and is connected with the main corridor, of which mention has already been made.

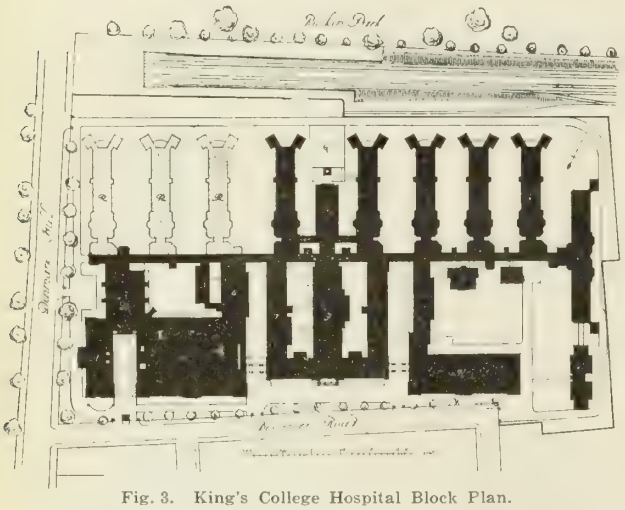


Fig. 3. King's College Hospital Block Plan.

A, casualty department; B, baths and electrical department; C, out-patient department; D, almoner; E, dispensary; F, administration block; G, pathological and post-mortem block; H, medical school; J, operation theaters; K, gynecological and clinical theaters; L, isolation block; M, special ward block; N, two-story ward blocks; O, three-story ward blocks; P, chapel; Q, central station; R, ward blocks, future extension.

The wards, which are arranged to stand at the top of Denmark Hill in a long, stately row, contain 24 beds each. At the southern extremity of each ward are sun balconies between the flanking sanitary annexes, which act as screens from the east and west winds. Between the wards proper and the great corridor are day rooms, ward kitchens, ward sisters' rooms, etc.

The pathological and post-mortem block is on the same side of the main corridor as the administration block, and in it a small mortuary chapel is provided. Between this and the north wing of the special ward block are two operation theater blocks of two stories each, and in the northwest corner of the site is an isolation block for infectious diseases, with accommodation for eight persons. The bird's-eye view plan (Fig. 4) will assist in following these details:

Concerning the financial side of the undertaking it may be said that, since in a hospital it is, of course, now considered absolutely essential that everything should be of the best, the expenditure of large sums of money is involved. Roughly speaking, the funds already raised for the removal amount to about £370,000, and before the fund has finished its work at least another £150,000 will be required.

The largest individual donation which the removal fund has received amounted to £50,000, which was given by an anonymous donor in May, 1912, and reached the appeal secretary in the form of two checks for £30,000 and £20,000, respectively. But, from the beginning, the effort has received very generous support, not only from private individuals, but also from the great city companies, and notably from King Edward's Hospital Fund, the contributions received from which amount to close on £50,000. The initiation of the new King's College Hospital was one of the last works of its kind undertaken by the late King Edward VII., who set the seal of his approval on this great scheme for the hospital accommodation of London when he graciously laid the foundation stone on July 20, 1909, just four years earlier than the inauguration of the hospital by our present sovereign on July 26 of this year, and his words on that memorable occasion are at once an explanation of the undertaking and an abiding appeal for its whole-hearted support: "The King's College Hospital has done a great work in the past, but its future utility in the building which will spring up where we now stand will be even greater. The huge population in the midst of which it is situated will have the advantage of easy access to its services, and the scientific and administrative work of the institution will reap the advantage of the more commodious premises. There can be no nobler aim for benevolence and public support than the care of the sick and suffering."

As said at the outset, the completion of this really notable achievement, on which all concerned are without doubt sincerely to be congratulated, involves the consideration of some very important questions. In the first place, we have to recognize that the topographical disposition of our hospitals to the best advantage has to be considered very seriously, both from the point of view of efficient philanthropy and from that of what is not less, if less directly, humanitarian—the provision of clinical material and the maintenance of the efficiency of our medical schools. The remarkable alterations in our facilities for transportation are so altering the distribution of the working classes to a degree undreamt of only a few years back. That the laborer is now conducted miles for a penny, and no longer lives where he works. Then, again, the inconsistency in preaching hygiene and yet conducting operations—not of necessity, but of election—

in the very heart of a smoky and dirty metropolis can no longer be blinked. At the new "King's", by good fortune, the twelve-acre site on the top of a hill with immediate proximity to woodlands, while yet only the shortest of distances from miles of mean streets on lower levels below, affords almost romantic opportunity for the relief of the physical distresses and disease of the poverty stricken on the very spot whereon, until only a few years ago, London's wealthier citizens were wont to devise their surburban retreats.

But there are other questions. Medical men practicing near Denmark Hill, until recently at any rate, exhibited signs of some alarm at what they deemed threatened interference with their livelihood by the perfected attractions of our most modern hospital. These difficulties have, however, I believe, been resolved, and the insurance act has not been without its effect in varying the circumstances. Again, Denmark Hill is some distance from Harley street and its immediate vicinity, wherein alone what the public calls "hospital doctors" are expected to reside, even in these days of motor cars. It is possible that what some have long prophesied may come to pass—that consulting physicians and surgeons, or at any rate those who are junior, will become disseminated throughout London, and not be aggregated congestively in any one quarter. It is certainly probable that what Harvey Cushing, Osler, and Moore have suggested—that the general practitioner should become linked up with the hospital system—will also gradually come to pass.

Another point is that the unifying tendency which, a few years ago, was manifested among the medical schools —a tendency toward amalgamation or federation with the synthesis of one great faculty of medicine for London—has, for good or for evil, been stayed. Some think it best that the individuality of the separate medical schools be maintained; others, that the medical student who knows none but his own particular hospital teachers is apt to exhibit that most distressing variety of provincialism so often met with, by a strange contradiction, in the world's greatest metropolis—that provincialism of the Londoner who sees and desires nothing but what is forced upon him, and who conceitedly ignores aught else.

The move made by King's College Hospital is one that was inevitable. It is one that ought to have been made, and it is one that has been made splendidly and successfully. Already other hospitals are talking of migration. St. George's and Westminster are going to unite, to destroy their nests, and, like phoenixes, to rise again—but elsewhere. Much the same considerations dictate their move as have dictated the flitting of "King's" from Clare Market to Denmark Hill.

But it must not be forgotten that the value of the sites now occupied by these institutions is enormous, and that the sums for which they will be sold will enable rebuilding to be carried out, perhaps without the necessity for appeal to the charitable, or, if such appeals are successfully made, with very substantial accrument to the endowment funds.

On the other hand, complaint is already being made in the press that the removal of these hospitals to outlying districts will leave central areas ill equipped for dealing with accidents that may occur. This difficulty will doubtless be overcome by the provision of receiving stations; but the fact, however, that it has been stated serves at any rate to show how complex are the problems involved, and how greatly the public has come to expect, as a right, the devoted service of those who now labor in voluntary hospitals.

BERLIN LETTER.

Das Städtische Rudolph Virchow Krankenhaus in Berlin—Some Explanation.

Berlin, September 15, 1913.

Some years ago I wrote about the Virchow hospital in Berlin. So many descriptions of it had been written even at that time and so much said about the vast extent of its buildings, the number of acres of ground that it covered, the great army of physicians and servants required for its operation, and what not, that I very carefully refrained from giving any detail whatever about the institution, but instead wrote a rather cubist sort of letter, which I thought would at least possess the supposed charm of originality, even if lacking in facts.

The result was that after my return home I received a call from a German physician, who informed me that I was either very ignorant, or lacking in courtesy, or didn't understand the German language sufficiently well to attempt to see anything, else I could never have gotten such a worm's-eyed view of a great German institution and one moreover entirely devoid of facts.

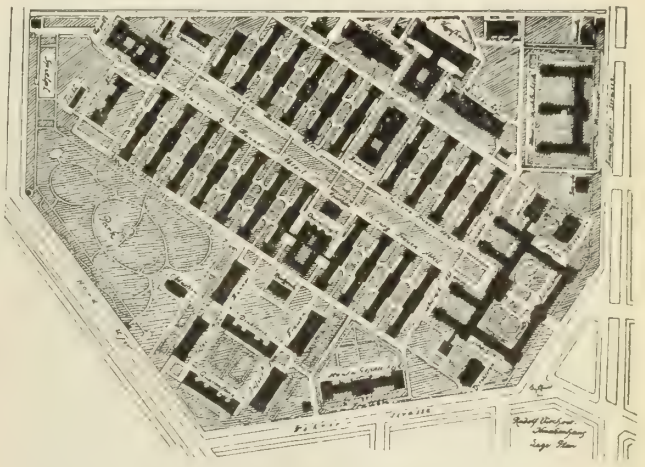


Fig. 1. Virchow Hospital. Ground plan.

It gives me great pleasure, therefore (as the after-dinner speaker says), to have the opportunity of correcting the impression of my German friend and of supplying all the facts, which, by the way, are handed out to visitors in the form of a neat booklet, even printed in the language of the ignorant foreigner. For whatever else the Rudolph Virchow Krankenhaus may or may not be, it certainly is one of the show places of Berlin, and the tourist who comes to the great German capital has to see it just as he has to see the tomb of Napoleon in Paris, the Tower in London, or the Prado in Madrid.

Frankly, I doubt if the Germans will ever build another hospital like the Virchow. It is possible that we in America, carried away by our present hospital enthusiasm and having convinced some of our multimillionaires that other countries have us "skun a mile" on hospital construction, may do it, and do it on a scale multiplied by ten. But the idea seems to prevail here that the results obtained at the Virchow have not justified its cost. In fact, there has been trouble after trouble at this institution. One may say the hospital is not to blame—it may be the personnel. But here comes in, again, the difficulty of perfecting the organization of such a large and varied service. It is difficult indeed to get a harmonious interaction of the wide-spread and different units unless a master hand is in

control, and even then there is not the smoothness of a perfectly assembled small machine.

Some "fin gourmet" once said that, to eat well, one must eat in a small restaurant. So do I believe that, to get well, one can best do it in a small hospital.

But to return to our facts, which I accept from the little book. The Rudolph Virchow hospital was begun in

Fig. 2. Virchow Hospital. General view, showing double pavilion, with central administration building.

1899 and finished in 1906. The situation and appearance of the fifty-seven buildings can be seen by reference to the plan. The hospital has 2,000 beds, and cost, including all furnishings, 19,000,000 marks, which means in real money about $5,000 per bed. Briefly, it is a very expensive village, covering sixty-three and a half acres of ground.

All of the buildings are connected by underground floors, or tunnels, which convey the steam and water pipes, and wires for electric power, light, and telephones.

All rooms in which there are patients are heated by water; other buildings—such as offices, lodgings for help, and out-houses not for patients—are heated by low-pressure steam. This steam is also used for sterilization for surgical material, preparation of sterilized water, disinfection, lavatory, and any other needs.

For ventilation, fresh air is sucked in from out of doors, filtered, heated, and distributed according to the Rabiz system. Used air is mechanically sucked out. In addition, there is trap window ventilation. All lighting is by electricity, which is supplied by the electrical works of the hospital itself. There are 9,118 lights inside the buildings, including 59 arc lights and 222 lights on the grounds to interfere with the evening amusement of the nurses and interns.

The hospital possesses a central telephone station, communicating with 95 inside stations, 20 of which can be used for outside communication. (Two years ago the St. Louis City Hospital possessed one telephone which could be used for outside communication.) The hospital has also its own water works, and the little book says that "the water comes up in physical, chemical, and bacteriological respects in every respect to all hygienic demands." An ice machine can turn out 22,000 kilos of ice every twenty-four hours.

There is, of course, a great disinfecting plant, and patients' clothes after disinfection are kept in a dust-proof wardrobe.

In my previous letter I went into some detail regarding the laundry and the kitchen, but here, again, my German friend did not approve. He said he didn't believe that even the Virchow hospital possessed a machine that would take an ordinary dirty calico wrapper and in half an hour convert it into a clean, starched, and ironed pink chiffon hobble skirt and peek-a-boo shirt waist of latest Parisian design. Also he said that my statement that the filet of sole was not as good here as at Marguery's was unfair, because Marguery's was a restaurant and not a hospital, and, besides, filet of sole was not proper food for patients anyway. In any event, there is a special room here for the manufacture of sausages, and that is more than any Paris restaurant possesses. Moreover, the cellars for the cooking and drawing of beer and storing of wine might be considered somewhat luxurious by some of our American friends.

Food is conveyed to the wards by means of special carts built somewhat on the order of a thermos bottle. The carts are kept hot in a special heated cart house built near the kitchen, so that the patients have no complaints to make about their frankfurters being served cold.

There are eleven distinct divisions in the hospital, of which the first eight have to do with bed patients. Those are divided in the usual way into medical, surgical, infectious, specialties, and so on. This includes a division for "troublesome patients," for whom it appears there are only 18 beds reserved out of the 2,000. German patients must be very peaceful. Finally, to take care of all this array of buildings and grounds and patients and machinery, there are 103 physicians, 4 apothecaries, 543 nurses and attendants, 20 office clerks, 50 persons for technical service, as also inspectors and managers, and 305 domestic servants.

The hospital receives 3 marks (75 cents) a day for each patient. There is no system of classes. The details of the financial arrangements of the Berlin hospital I have written about previously.

Of course, this institution possesses also numerous laboratories and a large pathologic-anatomic institute, but such features I would like to reserve for a special laboratory letter.

Naturally, in such a great hospital as this we find famous men at the head of the various services. Still, there was not the great rush for places here by the geheimrat professors of Berlin as would have happened perhaps in an American city under the same circumstances. In Berlin, tradition demands that certain positions remain fixed—thus, Bier remains at "Langenbeckhaus" and Bumm stays at the Frauenklinik on Artillerie strasse, and His and Kraus at the Charité, because tradition demands that these places must be occupied by the greatest men. However, at the Virchow hospital we find Borchardt and Hermes in surgery, Kutner in internal medicine, Koblanck in women's diseases, Hartmann in nose and throat, Jochmann in infectious diseases, and many others equally well known.

If you go out to the hospital on a Saturday morning and see in one corner of the grounds a great crowd massed together and shifting to and fro, you may think that there has been an accident—that an automobile has hit the crown prince or that Zeppelin has fallen from his air ship, and all the people in that quarter of Berlin have collected to see the fatality. But you will be mistaken—you have only happened onto Wechselmann's clinic, and the people you see are his patients waiting for their inspection of salvarsan.

R. L. Thompson, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

A sanatorium for tired business men is planned for Painesville, Ohio. Dr. John T. Frawley, of Cleveland, is interested in the project, which is to be made possible with Chicago capital.

CURRENT HOSPITAL LITERATURE

Modern Hospitals. Jour. Am. Med. Assn., September 6.

There are brief descriptions and some photographs of the Barnes Hospital, St. Louis, and the Peter Bent Brigham Hospital, Boston.

Social Service Department of Lakeside Hospital. Cleveland, second report.

This is a most illuminating booklet of 30 pages. It gives the reader an intimate acquaintance with methods of conducting a hospital social service department in every branch.

Report of the Lupus Institute in Vienna. Correspondence Journal A. M. A., September 6, 1913, p. 784.

In this institute 2,061 cases have been treated in the three years of its existence. Cases were received from all over the world. Surgery, by excision, the Finsen light, and x-rays are used. Methods of treatment are described in a superficial way.

Procedure in Relation to Contagious Diseases. New York City Bulletin of the Board of Health, August 16.

Some excellent matter is contained in this bulletin, the character of which will be obvious from the several headings, as follows: 1, How to keep from getting and spreading contagious diseases; 2, Precautions in cases of diphtheria, scarlet fever, and measles; 3, Disinfection after illness is over.

A Year's Experience with Spinal Anesthesia. Dr. H. J. Donaldson. Am. Jour. Surg., September, 1913.

The author compares stovaine and ether, and finds the former more effective. He points out the selective cases for each. There were 234 patients operated upon in the hospital, in 219 of which there was complete anesthesia with stovaine. In 15 cases it was necessary to give a second injection or a little ether.

A Successful Summer Ward-cooling System. Editorial in the Am. Jour. Surg., September, 1913.

The editor gives some of the details concerning the small refrigeration plant operations at Mt. Sinai Hospital during the past summer. The cost for operating the four-bed ward was $1 per day. In conclusion the editor says: "We venture to predict that within a few years the plans for hospitals in most sections of this country will include a system for cooling at least some of its wards."

Home Management of Tuberculosis. Thomas Spees Carrington, M. D. British Journal of Tuberculosis, July, 1913.

This is the well-worn out-of-door treatment, but the article is valuable because of the many photographs showing ingenious devices for providing for this treatment under varying architectural conditions, from the flat roofs of the poorest tenement quarters to the windowed and screened porches of the wealthy. It even tells how to make the out-of-door bed like a "sleeping bag" of the Klondike.

The Egyptian Hospital Ship "Bahr Ahmar" of the Red Crescent Mission. Surgeon D. N. Carpenter, United States Navy. The Military Surgeon, September.

This is the story of the one bright spot in the lurid picture of the recent war in southeastern Europe. A description of the ship is given, with details of her equipment for the care of sick and wounded soldiers. The Egyptian Red Crescent Mission conducted the operations of the ship and did splendid service.

Outdoor Treatment of Scarlet Fever. H. M. Cargin and T. Graham Shand. Public Health, August.

This is an account of the employment of an open-air method in a hospital which had no ward room or other available space for properly handling the communicable diseases. The method could be employed in any institution with doors large enough to admit the passage of a bed. Both severe and mild cases were treated out of doors, and the efficiency of the method was marked in all cases by lowered temperature and better general condition in from twenty-four to forty-eight hours.

Discussion on Hospitals in Relation to the State, the Public and the Medical Profession. Brit. Med. Jour., London, 1913, August 2, 238-243.

In the section of medical sociology at the eighty-first annual meeting of the British Medical Association there was an interesting discussion on hospitals, to which Benjamin Moore contributed the opening address; I. G. Gibbon, a paper on the municipal hospital in Germany from the financial standpoint; Professor Pfeiffer, of Essen, a short paper on salaries; and Dr. Grober, of Jena, on the German hospital and German insurance legislation.

Institutions for the Tuberculous. The Mt. Vernon Hospital, Middlesex, England. British Journal of Tuberculosis, July, 1913.

From the descriptions, photographs and drawings, this must be one of the finest sanatoriums imaginable. Though it is not quite new—parts of it nine years old—many additions have been made until there are now a dozen or more one-story pavilions. The site, character of soil on which it is built, the architecture, arrangement of space, all are described in detail, even to the big open fireplaces. The article should be read by those who contemplate this sort of construction.

Sanatorium Treatment of Children (Sanatoriumsbehandlung bei Kindern). H. Spiegelberg. Aerztl. Runcach., München, 1913, XXIII, July 19, 337-342.

Spiegelberg discusses the important question of sanatoriums intended especially for children, but more particularly institutions for nervous children and neuropathic cases. Germany is far in advance of other nations in providing for the care of its weakling children, not only for the benefit of the unfortunates, but to make valuable citizens of those whose lives would otherwise be useless to the community. Open-air sanatorium schools, mountain and seaside homes for tuberculous children, convalescent homes and institutions for cripples are also discussed.

The Private Laboratory—Does It Pay? C. U. Moore, M. D. Journal-Lancet, Minneapolis, September 15, 506.

The author recently sent out a circular letter to obtain some information as to what was being done in a laboratory way by busy physicians having practices of $5,000 or $6,000. He proceeds to a discussion of the variety of work required in modern practice. There are several ways for such a physician to obtain his laboratory work; 1, by doing it himself; 2, by hiring an assistant to

do it; 3, by getting it done in a commercial laboratory when one is available; 4, by getting it done in a nearby hospital when possible; 5, by having the state do it in laboratories maintained for the purpose.

The author advises the physician to do his own work. He computes that an adequate laboratory need not cost more than $80, and that there will be a 400-percent profit, not counting the satisfaction in knowing what one is doing first hand.

Two Turkish Hospitals. Surgeon D. N. Carpenter, United States Navy. The Military Surgeon, August, 1913.

During the recent Balkan wars Major Clyde Ford, United States Army, was the main reliance in Constantinople for organization of first aid, had charge of the surgery upon the soldiers sent to the rear from Scutari and Adrianople, and also created the organization for handling the cholera epidemic that came upon the heels of war. There were two great base hospitals at Smyrna, one military, supported by the Ottoman government, and one civil, conducted under the auspices of the citizens of Smyrna. Patients were brought to these hospitals from the battle fields of Salonika and Monastir on the hospital ship Bahr Ahmar. Dr. Carpenter describes these hospitals. Both seem to have been quite modern, aside from the fact that they had no very good lighting system, and no heating system at all, due to the mild climate. The civil hospital has 300 beds, but added 100 more during the pressure of the war. It is only 12 years old, is built of stone and concrete, with rounded cove bases extending up the walls from the concrete floors, thus rendering it possible to maintain cleanliness. The hospital is built in three pavilions two stories high, and the wards are small, the largest containing 30 beds. Wide corridors connect the pavilions. The beds and all ward furniture are iron, excepting the bedside tables, which are of wood. Blankets, but no sheets are used. Oil stoves furnish what little heat is required in winter, and gas with argand burners furnish the illumination. There is an excellent laboratory, with an animal house, showing that some research work is attempted. The superintendent is a "hoje," or holy man, and he is assisted by an excellent clerical staff. Dr. Moustafa Enver, a man of high attainments, is chief surgeon.

How Can Cross-Infection be Prevented in a Hospital for Communicable Disease? M. B. White. Canad. Jour. Med. and Surg., Toronto, 1913, XXXIV, August, 117-121.

A new responsibility has devolved upon the community which undertakes to diminish communicable disease by segregating it in special hospitals—namely, to prevent further infection among those it has taken upon itself to care for. "There is a certain percentage of infection common to all children's hospitals. If this is deducted from the statistics of a well-planned and well-managed hospital for communicable diseases, the balance to the credit of the children's hospital would be very small." Two or three diseases may coexist in the same patient, of which only one may be obvious. Of all cases of scarlet fever admitted to the Toronto Isolation Hospital in 1912, 14 percent were carriers of diphtheria bacillus on admission. Although it cannot be proved bacteriologically, cases admitted for diphtheria quite possibly carry scarlet fever in mild or unrecognizable form. Scarlet fever patients carrying diphtheria germs are, of course, to be separated from other scarlet fever cases, but to isolate all diphtheria patients as scarlet fever suspects, although the ideal procedure, entails a great amount of unnecessary labor and expense. It suffices, in the author's opinion, to isolate the diphtheria cases which, after careful examination, are pronounced suspicious. Diphtheria and scarlet fever nurses and the maids employed in connection with these two diseases should have separate quarters. Routine swabbing of the throats of all scarlet fever patients, isolation of those carrying diphtheria bacillus, and the administration of an immunizing dose of antitoxin to all patients rules out possibility of post-scarlatinal diphtheria. Methods of cross-infection by contact, direct or indirect, are only to be recognized, and all theories of aerial infection are to be discarded. Medical asepsis first and last is the underlying principle in preventing cross-infection.

Habitations for the Tuberculous. Vincent Hoope. British Jour. of Tuberculosis, July, 1913, pages 177-184.

This article deals with the main principles which should guide the arrangement, planning and construction of habitations for the tuberculous—viz.: sanatoriums, sanatorium hospitals, and residential sanatorium schools. The "sanatoriums" refers to institutions for residential treatment of adult patients with pulmonary tuberculosis whose condition is neither acute nor advanced, whilst the term sanatorium hospitals refers to a special building for the treatment of either acute or advanced cases, or both.

The appendix of the Final Report of the Departmental Committee on Tuberculosis contains a memorandum with regard to sanatoriums, and submits a suggestion for the classification of the sanatorium unit: 1, sanatorium proper; 2, hospital; 3, administration section; 4, power house and laundry. According to such, patients are to be divided, the majority, or 80 percent, in sanatoriums, and acute cases, or 20 percent, in a hospital block. This works a distinct advance, and should lead to interesting developments in planning. The "hospital" is intended for cases requiring nursing, and includes a reception block, where newly arrived cases can be observed, and where those suffering from acute symptoms can receive special treatment. Whether the hospital should or should not accommodate advanced cases is a point undecided.

Children should be in separate buildings, and should have their own block, on their own land, with entrances, paths, and walks as much as possible separated from those attached to the sanatorium. This would be the "residential sanatorium school."

Classification of the sanatorium unit should be as follows:

1. Administration section—a, medical administration; b, domestic administration; c, power house; d, sterilizing station and laboratory; e, laundry; f, residential staff quarters.

2. The hospital—a, reception and acute cases; b, advanced cases.

3. Sanatorium proper—a, patients' room; b, lavatory blocks; c, dining and recreation rooms.

4. Residential sanatorium school—a, home; b, open-air school.

The plan for the hospital might follow the ordinary type of a straight or crescent-shaped building, one room or corridor in thickness, the sanatorium consisting of separate portions connected by covered ways or paths. The hospital can house both sexes, but in the sanatorium it is better to house men and women in distinct blocks. The aspect for the building should be considered on the site, together with data as to the prevailing winds and rainfall. The hospital should face south, but this is not essential for the sanatorium or "school."

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NEWS *of the* HOSPITALS *and* SANATORIUMS

It is proposed by the governing board of the Newburg (Ohio) state hospital for the insane to purchase a 200-acre farm. Governor Cox has been asked to help the project along for the benefit of the state's wards.

The Union Hospital Association of New Ulm, Minn., has instructed architects Alban & Hausler, of St. Paul, to prepare plans for a hospital building, which the Association will erect this fall.

The hospital management of the Colorado Fuel and Iron Company at Pueblo is building an isolation pavilion. It is to be finished inside with a white cement, so that it can be sterilized by live steam turned into the rooms.

The City Council of Portland, Ore., is busy passing an ordinance to prohibit the erection or operation of a tuberculosis hospital within the city limits. It is said that reputable physicians of the city are encouraging the protest. Property owners are behind the move.

An interesting experiment is to be made soon in Wisconsin in regard to the location of tuberculosis sanatoriums in state forest reserves. Dr. J. W. Coon, superintendent of the state tuberculosis sanatorium at Wales, and the state forester are a committee to select a location and a camp is to be built at once.

Work is well under way on the new state hospital for the insane at Larned, Kan. A farm of 640 acres is attached to the hospital, and an attempt will be made to find work for as many of the patients as are in physical and mental condition to participate. The state board of control thinks the farm will be able to raise enough produce to supply the other state institutions.

The City Hospital of Cleveland proposes to establish a training school for hospital orderlies. Many complaints have recently been registered, alleging abuse of patients, nearly all due to untrained and undisciplined orderlies. Director of Charities and Corrections Harris R. Cooley thinks that if these men had a special training and had graded salaries the trouble would end.

St. Louis capitalists may spend a large amount of money developing a mud bath "cure" at Sue Belle Lake, two miles outside of Marshall, Tex. They have recently sent an architect, R. M. Milligan, down to look over the field. Mr. Milligan is to say whether the baths are anything like those of Mudlavia, Ind. It is not stated whether Mr. Milligan is an expert on hydro- or physico-therapy.

Dr. Walter Morritt, for the past twelve years superintendent of Minnequa Hospital of the Colorado Fuel and Iron Company at Pueblo, has been elected superintendent of Bethel Hospital, Colorado Springs. His departure from

Pueblo was very much regretted by a great host of personal and business associates. The physicians and surgeons of Minnequa Hospital gave him a suitable present and many well wishes.

The contagious disease hospital to be connected with the Evanston (Ill.) General Hospital is well under way. Mr. James A. Patten has given the building, to cost approximately $100,000, and the people of the North Shore have raised a like maintenance fund. The hospital is to be built according to the very latest plans for an automatic isolation of the communicable diseases. It is to have 55 beds, but the building is so constructed that additions to increase the capacity can be made at any time at the lowest possible cost.

The Government is contemplating an experimental sanatorium for the study of pellagra at Raleigh, N. C. There were five deaths from that disease in that city in one week recently. A good deal of work is now being done by the Government experts in the South, but the disease is spreading so fast and the attempts to find a cure have been so unsatisfactory that some better organized system to fight it seems demanded. Several southern cities have wanted the sanatorium.

What was formerly the Monroe Street Hospital of Chicago is now, by a recent change of name, the Washington Boulevard Hospital. A block of ground 73x126 feet has been purchased at Washington boulevard and Campbell avenue at a price approximating $100,000. A modern building is being already erected at the new location, the transfer of the property having taken place several months ago, but is only now turned over to the hospital board. The building fund of $55,000 was raised by mortgage on the property.

Atlanta, Ga., is to build a public hospital for crippled children. A campaign to ascertain how many crippled children there are in the state resulted in reports of 704 little cripples. Many prominent people all over the state have signed a call for such a hospital. Several prominent business men have volunteered to serve on the board of trustees, among them Clark Howell, the famous journalist; Messrs. Charles H. Black, Frank Inman, Walter Rich, and J. P. Stephens. Two hundred persons are called on to contribute $100 per year each to maintain the hospital.

It is not very often that one sees an item in the papers like the following, taken from the Louisville *Courier-Journal.*

"To satisfy the claims of twenty creditors and the court costs of Magistrate James S. Keigwin, the equipment of the Jeffersonville City Hospital was sold to B. Frank Sherrick, of Louisville, by Constable George W. Kirk yesterday afternoon for $206. The property was purchased by Mr. Sherrick to be removed to Louisville, where his daughter is identified with the Deaconess Hospital.

"The property sold yesterday represented an original cost of $3,000. The things included all kinds of equipment, consisting of many beds, bedding, blankets, coverlids, sheets, pillowslips, a great deal of table and other linen, dishes, cutlery, silverware, furniture of various kinds, and other articles."

Building, $40,000—Maintenance, $5,000.

The will of Mrs. Julia Lorillard Butterfield, who died recently at Cold Spring, N. Y., devises that a hospital is to be erected at some spot accessible to both Cold Spring and Nelsonville, Putnam County, N. Y., to be known as the Julia L. Butterfield Hospital; $40,000 is given for the construction of the building, $10,000 for its equipment, and $100,000 left in trust for its maintenance. The will also contains a bequest of $20,000 to the association for the Relief of Respectable Aged, Indigent Females, at One Hundred and Fourth street and Amsterdam avenue, New York, and a bequest of $5,000 to the association for the Relief of Crippled Children.

Changes Urged for Insane Hospitals.

The Illinois State Charities Commission, in its annual report just issued, devotes much space to urging radical reforms in the treatment of mental and nervous diseases:

"The commission recommends the establishment in all large centers of population of psychopathic hospitals for the cure and treatment of the acute insanities where the commitment shall be purely voluntary.

"It favors the present state hospitals being made colonies for the strictly chronic class. By this plan the commission says the man in the first stages will seek hospital care, and a larger number will be cured or prevented from deteriorating into incurables.

"The commission says that the psychopathic hospitals should be equipped to look after the patient after he has gone out a convalescent.

"The first hospital of this character should be erected in Cook County. In this recommendation the commission follows those made repeatedly in recent years by it and its predecessors, the State Board of Charities."

Fortunately, as this report is issued, completed plans for a new psychopathic hospital for Cook County lie on the table of the Board of County Commissioners, awaiting the letting of the contract. This hospital is to have a capacity of 230 beds, with architectural arrangements that will permit of expansion to double the capacity.

The Food Problem.

To the Editor of THE MODERN HOSPITAL:

I have your letter of the 15th, and I am very glad to take advantage of your kind invitation to tell you some of my troubles.

The food problem is one of the greatest we have to contend with, and I have given considerable thought to its solution. Perhaps it is greater with us than with any other hospital because we have the dietary laws in force in our institution. It has occurred to me that it would be a feasible and workable proposition to contract with a restaurant in our neighborhood to furnish the necessary meals for the inmates of our hospital, including patients, doctors, nurses, and all help. I believe it would cost us no more to get our food that way than to purchase and prepare the food under our own personal supervision, for, with the restaurant to furnish us the required number of meals daily, we would be able to save the cost of cooks, kitchen force, waitresses, steward, cutlery, dishes, pots, fuel, food supplies, and save the space occupied as kitchens, dining rooms, pantries, store rooms, etc., utilizing that valuable space for other purposes.

The reduction of the help would also save us the expense incidental on their housing, such as laundry, food, light, heat, wear, and tear. Under such an arrangement our people would go out of the building for their meals and would thus enjoy them all the more, being free from the hospital atmosphere, and the food for the patients would be sent to the wards in properly heated conveyers.

What a blessed thing it would be for us interested in the proper care and treatment of our patients to have no other concern than that of attending to the real hospital work instead of having to concern ourselves mostly about the food, as we do now.

Yours very truly,

LOUIS J. FRANK, Superintendent.

NOTES on NURSING

Eight-Hour Law Under Fire.

A legal fight is promised over the California eight-hour law passed by the last Legislature, and which became effective August 10. An organization, including hospital heads, medical staff members, and nurses, has been formed in San Francisco, Oakland, and neighboring towns to resist the law in court.

The state labor commissioner, who is named in the law to direct its enforcement, has sworn out warrants against the heads of hospitals who have refused to recognize it, and the matter will go into court on the question of constitutionality.

The law supposedly was enacted to protect pupil nurses against long hours and exploitation as "under-graduate specials," for whose services the hospitals were paid.

The outcome of the controversy will be of interest as to its legal bearings, because the eight-hour contention is a problem elsewhere besides on the coast.

Perhaps the most important question at issue is whether the nursing body is a trade union or a learned profession. It is highly important that the nurses on the coast make no false move in this controversy to gain a temporary advantage, because there is much at stake that has already been won by them after long years of hard fighting.

Post-Graduate Work in Women's Hospital.

The Free Hospital for Women, Brookline, Mass., announces a post-graduate course for nurses holding a diploma from any recognized school. Board, lodging, washing, and an allowance of $10 per month to cover the cost of the uniforms and other incidentals is given. This allowance is by no means intended as compensation for the services rendered, the experience being considered sufficient equivalent, but is simply to enable the nurse to avail herself of the post-graduate course without expense during her stay in the hospital.

The course is absolutely practical, the nurse's time being devoted to an actual application of the most approved methods of surgical nursing: the preparation of patients for operation and the cleansing and sterilization of instruments and dressings; the care of the operating room and assistance at operations, both plastic and abdominal; practical work in wards, including the care of patients after surgical intervention, covering the whole field from simple curettage to vaginal and abdominal hysterectomies. In connection with the out-patient department each nurse is instructed in the arrangement of patients for office examinations and the treatment of all minor diseases of women; also the preparation of office instruments and dressings, etc. The course gives ample time to become perfected in the care of any gynecological case from the time of the first examination at the surgeon's office to the subsequent operation, convalescence, and ultimate recovery. There are lectures by the attending staff, recitations, and practical demonstrations in gynecological work throughout the course. At the conclusion of the term of service a diploma is given, if the nurse passes the examination and her work and conduct have been satisfactory.

District Nursing in Jerusalem.

District nursing in Jerusalem seems at once to bring the old biblical city into very close touch with the most modern charities of today, says *Public Health Nurse Quarterly*. For a moment it almost seems as incongruous as electric cars in Bethlehem—but when we think of the great poverty and dirt and suffering in the ancient city of the Jews, not only in biblical days, but even more so in the present, we realize what a splendid thing it is that a Jewish society of New York City, The American Daughters of Zion, should have awakened to the need and have sent two trained visiting nurses from this country to work among the poor and sick Jews in Jerusalem. Miss Rose Kaplan, a Mt. Sinai Hospital nurse, is in charge, and Miss Rae Landy, of Lakeside, is assistant. The following extract from a letter recently received from Miss Landy will be of interest to our readers:

"Miss Kaplan and I are doing district nursing in Jerusalem. It is a very new thing in Jerusalem, and we are having some difficulty in becoming established, but I am sure things will adjust themselves in the end. We rented part of a house, and, not being able to get ready-made furniture, we are having everything made. I am sure the work is going to be very interesting; there is a great field here and plenty to do. The conditions are perfectly distressing. I never imagined people could be so poor and miserable."

Where Shall Probationers Come From?

One of the problems of hospital administration handed down from Dr. Howell's question box on Friday morning at Boston touched the quick of the nursing situation, but, since this question can be settled best by the airing of the different views, the question is published in this column:

THE QUESTION.

Now that the various states of the Union are passing laws governing training schools and the practice of nursing, and are establishing by these laws the minimum preliminary educational qualifications, does it not seem just that they should establish a lower standard than one year in high school? In view of the fact that, owing to the great increase in training schools, there are not enough women with high school education to fill all the positions, and in view of the fact that many women with common school education make excellent nurses, why would it not be better for the states to provide a minimum requirement of a common school education?

This would give the schools a wider range of selection and enable them to train more nurses. Each school could fix its own standard of preliminary education, providing it was equal to or higher than the standard established by law.

ANSWER BY DR. DREW, OF THE WORCESTER CITY HOSPITAL.

This is not a question that is easy to handle, because it has been handled so much that it generates heat. I do not like the form of the question, because it reads as if the man who asked the question was telling how to answer it.

For many years the medical profession, as represented by state and national medical societies, has tried annually and strenuously to raise the bars higher and higher to keep out of the medical profession applicants who have not enjoyed the advantages of a liberal preliminary education.

For a comparatively few years the nursing profession, as represented by state organizations of nurses, has tried to bar out of the profession of nursing those who have not had at least a preliminary high school education. In

the one profession an academic college degree has been the standard hoped for; the other profession has hoped for a standard not lower than that represented by a high school diploma. The object of the advocates of higher standards in both professions has been the public good and the exaltation of the profession. While it is granted that a college degree is no guarantee that the man has clean hands and a pure heart, it is admitted that the holder of such a degree has at least been associated with and presumably influenced by scholarly and altruistic men. So it is held regarding a high school diploma, which does not guarantee that the girl is sympathetic or tactful, or even honest. Many experienced educators believe that a girl with less than a high school education cannot grasp the principles nor digest the instruction which good schools try to represent and teach. A few of the more favored hospitals, with means to attain approximately their high ideals, have no difficulty in finding a sufficient number of candidates with a high school diploma. It is often assumed in discussion that the reason all schools do not have plenty of high school and college-bred girls on the waiting list is because their standards are low. It seems probable that, if all schools were equally heavily endowed and equally well equipped, the shortage would simply be more evenly distributed.

It is against the evidence to assume that there are enough high school graduates to supply the demand of the fast multiplying hospitals and the fast growing demand for nurses in social service and other kindred lines of work. To use a much worked quotation, "It is a condition, not a theory," that we are facing. In spite of the many hospitals, fast growing in numbers, Mr. Bradley told us in his excellent paper of Tuesday that 87 percent of the sickness in America is in the home, and the evidence seems to prove that the homes of the self-respecting middle class are woefully short of nurses.

I regret much that the thoughtful papers of Mr. Bradley and Miss Riddle could not have had a free discussion on Tuesday afternoon. There are many members of this association who would like to hear the evidence and the arguments for and against the classification and grading of nurses, which is very closely related to this question of preliminary education. Whether we agree with the high idealism of Miss Riddle or with the matter-of-fact report of the majority of the committee, this association as a whole, in my opinion, suffers a distinct loss in the side-tracking or the postponement of the discussion of those two valuable papers read Tuesday afternoon.

Indeed, I was so much impressed that I dreamed of those papers Tuesday night. Things were badly mixed, as they often are in dreams. It seems as if I were sitting with this association in the same hall, but, instead of the readers of Tuesday afternoon, a handsome officer in full uniform from the United States army held the floor. His paper was a plea for higher education in the army. His argument was that the dearth of applicants for the army is due to the fact that poorly educated men are accepted. "Keep out the uneducated and there will be no lack of educated applicants," was his theme. His slogan was, "The best is none too good."

In my dream we were so wildly enthusiastic under the spell of his eloquence that we voted unanimously that no one should be admitted to the army who had not one year at least at West Point.

Judging from my own experience, I see no need of legislation to fix a standard of education for probationers. I am inclined to think that a training school committee of the trustees and the superintendent of nurses and the superintendent of the hospital are, as a rule, fairly well qualified to judge, after a six months' probationary period, who are and who are not fit to continue in training.

Again, my experience and observation force me to believe that the question of a college or a high school education depends very often on the financial condition of the parents. I know many men holding positions of honor and influence in the commonwealth who went to work directly after leaving the common school. I do not doubt that there are thousands of bright girls, well fitted for all the practical duties of nursing, that are forced by circumstances to go to work directly after leaving the grammar grade.

We need many broadly educated nurses for teachers in our hospitals, for leaders in social service and for private nursing in many cultured homes, but I suspect we are laying too much stress on education as obtained in the schools and attaching too little importance to constitutional and temperamental fitness, and that education which is obtained in the school of adversity and necessity for self-support. Lest I be misunderstood, let me say that I have no grouch against the high schools, nor any higher institution of learning. I wish it were possible that every son and daughter of our great country could have broad educational opportunities as well as good food and good clothes and time to play. But because thousands of boys and girls with keen perceptions, sound nervous systems, and honest ambitions for self-betterment are denied such opportunities and such luxuries, I see no good reason why we should shut the door of opportunity to him or her who is not born to be fed with a silver spoon.

My plan would be to judge each case on its merits. Secure a personal interview with the candidate if possible. If the superintendent of nurses is in doubt, the superintendent of the hospital should also see the candidate, then submit the application in the candidate's own handwriting to the trustees, or at least to a committee of the trustees, with such recommendations and evidence of education and fitness as the candidate may be able to furnish. If the superintendent of nurses approves and the trustees concur, open the door of opportunity, give the candidate a chance to show her fitness, whether she has ever entered high school or not, providing she did not drop out of school from choice rather than necessity.

To my mind the time to weed out the unfit is during the probationary period. A good instructor of probationers and a competent and fair-minded superintendent of nurses should be able to decide during a six months' trial whether the girl is possible or not. In many cases the question is clearly settled in less than three months. If there is a doubt, a longer trial should be given. If a competent superintendent of nurses is not supported because of misdirected sympathy or because the nurse has a pull, woe to the school. If the superintendent of nurses is not fair-minded and competent, woe again to the school.

The graduating exercises of the Albany (N. Y.) hospital, held September 17, was accompanied by the annual ceremony of tree planting. Twenty-four young women were in the class. The interns of the hospital acted as ushers, the entertainment being held in the grounds of the nurses' home. Each class that graduates at Albany plants its own class tree amid much ceremony. It is a pretty sentiment.

Stuart Circle Hospital, of Richmond, Va., has added $50,000 to its capital of $50,000. The increase will be devoted to new buildings.

QUERIES *and* ANSWERS

Opaque Transoms.

To the Editor of THE MODERN HOSPITAL:

Is the opaque transom a good solution of the problem of night lights in the corridor disturbing patients, and, if so, of what should it be made?

The best solution of this problem is to put a heavy green or black Holland shade on the glass transom. The shade should lap over the transom frame on all sides, and should roll from the bottom, with catch pulley at the top through which the cord can be manipulated. With this device the transom can be opened or closed, and the always tight cord will keep the shade from flapping. The shade can be rolled during the day when light is needed, and can be drawn at night to shut out the electric light.

Self-Closing Faucets.

To the Editor of THE MODERN HOSPITAL:

Which is preferable, foot, knee, or elbow action for faucets in the operating room, and why?

They are all equally convenient for the surgeons if they are properly placed; some surgeons prefer one and some another, according to whichever they have been accustomed. Until recently the foot pedal was undesirable owing to the fussiness of the brass or nickel work on the floor and the difficulty of cleaning around it. Recently plumbers have overcome this by putting everything but the tread in a box and setting the tread on top. Both knee and elbow action are now made with self-closing spring, and this is important, because the water that comes to those faucets is sterile, and it costs money to sterilize water, though most surgeons ignore this waste and let the water run sometimes for hours. Really every faucet in the house should be self-closing, because it costs money even to pump water to the house tank.

Treatment of Maple Floors.

To the Editor of THE MODERN HOSPITAL:

What is the best way to treat maple floors so they will not darken, beginning when they are first laid?

A. T. L., Duluth, Minn.

In the first place, they should be kept clean, and workmen should not be permitted to walk on them and grind in the dirt with their shoes. Mr. H. E. Webster, the new vice-president of the American Hospital Association and superintendent of the Royal Victoria Hospital, Montreal, published this recipe in the *Hospital* (London) three years ago:

"New floors treat with oil, then shellac, and afterwards two coats of floor varnish. When thoroughly dry, wax with the following preparation: ½ pound beeswax, 1 ounce resin, 1 ounce pulverized alum, 2 pints turpentine, 1 tablespoonful Japan (dryer) turpentine. Mix the wax and resin over a fire, then remove from the heat. Add your turpentine and Japan, and your alum last. Then let it stand until it forms a paste. Apply the wax with waste and then brush."

If the floors are old and already darkened, they will have to be scraped or thoroughly scrubbed.

Vacuum Bottles in Hospitals.

To the Editor of THE MODERN HOSPITAL:

Can you tell me something about the use of vacuum bottles in hospitals? We are thinking about placing them in our private rooms for keeping ice-cold water for patients, so that nurses will not have to do so much running; and we are also thinking about using them for normal salt irrigations according to the Greensfelder method. Some of our doctors doubt our ability to sterilize them properly because they break when boiling water is poured into them.

W. B. T.

There is no doubt that the vacuum bottle must come into common use in hospitals, not only for patients in private rooms, but for patients in the wards. If a container that costs $5, and that will last until it is broken by violence, will save a nurse half a dozen or a dozen trips a day of anywhere from fifty to two or three hundred feet to a water cooler, it seems to me that there is hardly an argument against putting it in, even for free patients, and even if one eliminates the comfort to the patients in having cold water at any time they want it rather than whenever the nurse has time to go and get it for them. The use of the vacuum bottle will prevent the absorption of an immense number of microorganisms and dirt of all sorts from the sick room, incident to the use of an open-mouth vessel, such as a pitcher. We will discuss the sterilization of these bottles presently.

The Greensfelder irrigating bottle is also a device that is coming into very common use, and will undoubtedly be universal in a short time, because the temperature of solutions used for transfusions and irrigations must be maintained within a degree or two for several hours, and, when one compares it with the old percolator or irrigator surrounded by hot-water bottles to maintain the temperature and having a wide open mouth, there is hardly any argument.

Another use for vacuum bottles is for keeping formula feedings for infants and others who must be fed on warm fluids. Infants' feedings in children's hospitals are generally prepared for twenty-four hours at one time and kept on ice in four-, six- or eight-ounce bottles, and those who have had experience know how difficult it is to get nurses to warm the feedings properly in these small bottles for each feeding. The time is coming shortly when each child's feeding will be kept separately in a vacuum bottle large enough to hold the twenty-four hours' feedings and maintained at an even temperature throughout the time. The use of these vacuum bottles for this purpose will very greatly simplify the nurse's work and add immeasurably to the efficiency of the feeding.

It is true, vacuum bottles cannot be sterilized with boiling water, because the glass does break; but, if the work is done in a systematic way and by the following process, it can be done very quickly and very effectively: Put into each vacuum bottle of, say, a pint or quart in size a gill or more of 80-percent alcohol; shake well, so that the alcohol reaches every part of the inside of the bottle; leave the alcohol in it for, say, half an hour, and shake the bottle occasionally during this time. At the end of the time pour off the alcohol into its own bottle and rinse out the vacuum bottle with sterile or recently boiled water, but let this water be not warmer than 140 degrees when it is put into the vacuum bottle; then the bottle will not break. The alcohol can be used any number of times, and the nurse engaged in sterilizing these bottles can perform the service for any number of them in half an hour. This will be true of all the vacuum bottles used in the house.

JOHN A. HORNSBY.

NEW EQUIPMENT

Typhoid Stool Sterilizer.

For years an attempt has been made to meet the demands of the medical profession for a sterilizer that would destroy the micro-organisms that are a part of the contents of bed pans and urinals, and at the same time clean those utensils so that they also would be perfectly sterile.

Manufacturers have been busy trying to evolve a typhoid stool sterilizer, and it will be interesting to summarize their results up to the present time. Some of the illustrations accompanying this article indicate the "state of the art," so to speak.

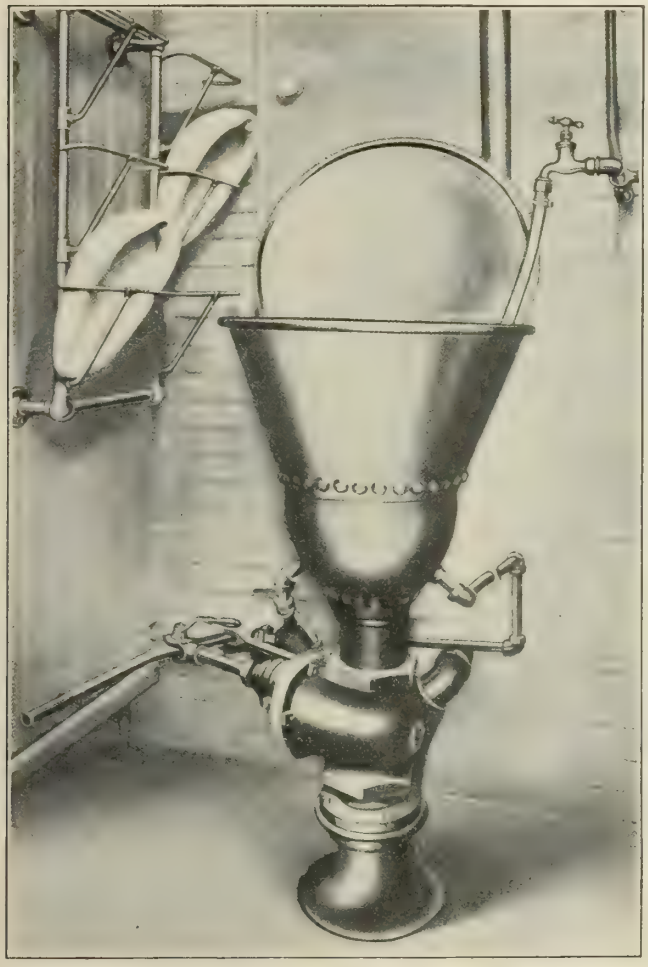

Fig. 1. E. B. Badger Company sterilizer.

Fig. 1 is the sterilizer of the E. B. Badger Company. This is a bell-shaped hopper, with a lid closed by hand and raised by hand. No attempt is made to retain steam or odors. The pan is washed with a hose, as shown in the illustration. The steam is then turned into the jacketed compartment and the water in the chamber is boiled. It is claimed for this sterilizer that no odors can escape when the lid is closed, but the Massachusetts General Hospital, which has been using it, makes no report to this effect and performs the work of sterilizing and cleaning by two processes. The contents are boiled in the hopper and the pan is washed in another utensil.

Fig. 2. Wilmot Castle sterilizer.

Fig. 2 is the Wilmot Castle sterilizer, which is practically a cube in shape. The lid is raised by foot pedal, and the bed pan is set into a holder arrangement and fastened there. When the lid is closed, the lever that operates it turns the pan upside down. The bottom of the chamber is dished to permit drainage, and there is a steam-jacketed bottom, so that water and contents of the chamber are boiled. The interior of the chamber is fitted

with smoothly finished spray pipes and adjustable nozzle.

Figs. 3 and 4 represent the device made by the Hospital Supply Company and from a design submitted by Dr. John A. Hornsby, then superintendent of Michael Reese Hospital. This device is a cylindrical hopper, with dished double-jacketed bottom, the jacket containing steam coils. The rack inside, on which the utensil is hung, is fixed in place, and at the point of this rack is a jet connecting with the hot water and also with the live steam. A bed pan or urinal may be hung on this rack, with the jet point projecting into the utensil, and the utensil is then washed out with hot water, the contents falling into the boiling water; the utensil is thoroughly cleaned, a jet of live steam is substituted for the hot water jet, and the utensil is in this way sterilized. The lid is gasketed and set into an asbestos seat. There is a clamp that fastens the lid down to prevent the escape of gases or odors or steam. At the top of the hopper is an exhaust pipe, as shown in the cut. This escapes into a roof vent, with a condensation pipe below, letting into the trap. The lever that opens the hopper for the escape of the sterilized contents is hand-worked. The escape pipe at the top of the hopper makes it impossible for steam to be introduced under any considerable amount of pressure, but experience has shown that two or three pounds of steam can be produced. Dr. Hornsby has designed a modification of this sterilizer for the new Cook County Hospital, as shown in Fig. 4. This sterilizer will take care of six bed pans or urinals at one time. It is believed that this hopper will supplant the clinic sink for cleaning bed pans, urinals, and other utensils besides those that are known to be infected with the organisms of specific diseases, such as typhoid and the gastrointestinal fevers.

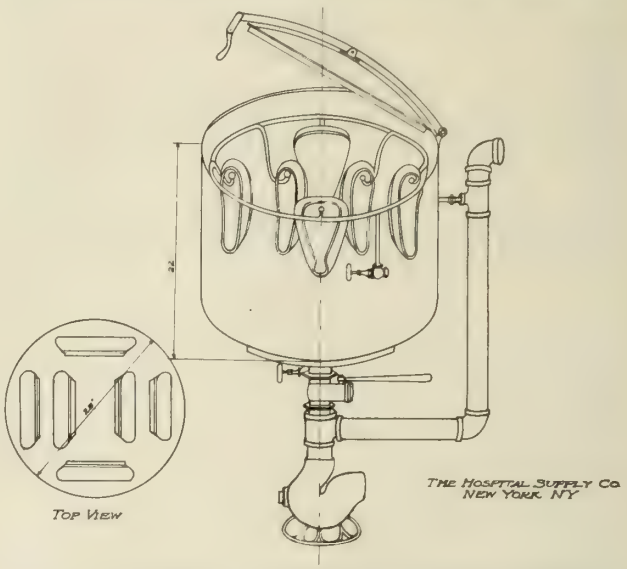

Fig. 4. Modification of Hospital Supply Company sterilizer.

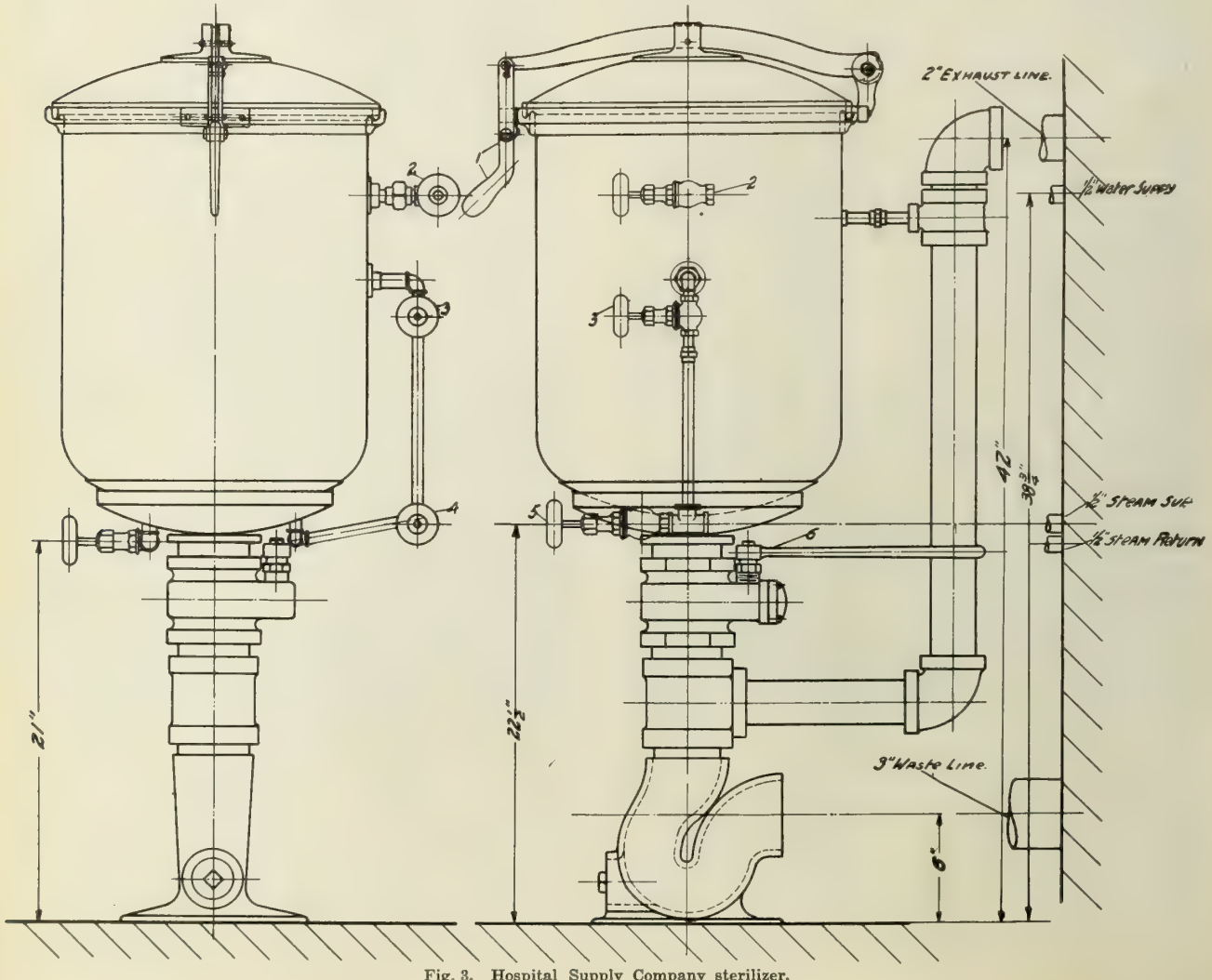

Fig. 3. Hospital Supply Company sterilizer.

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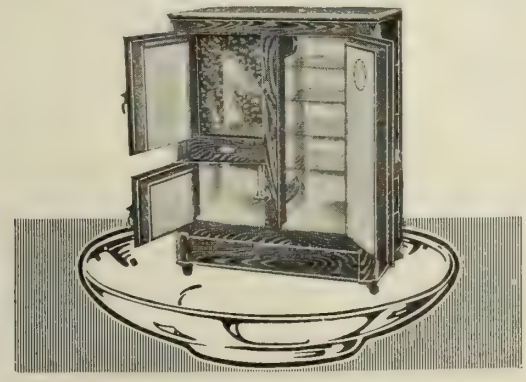

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Deane's Patent Eclipse

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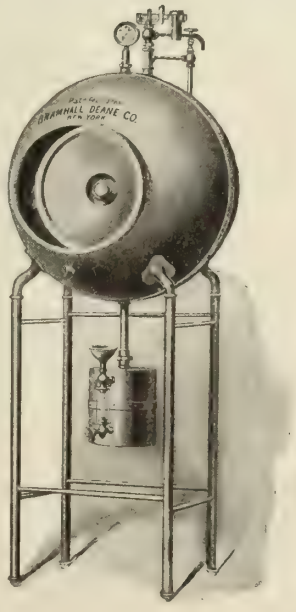

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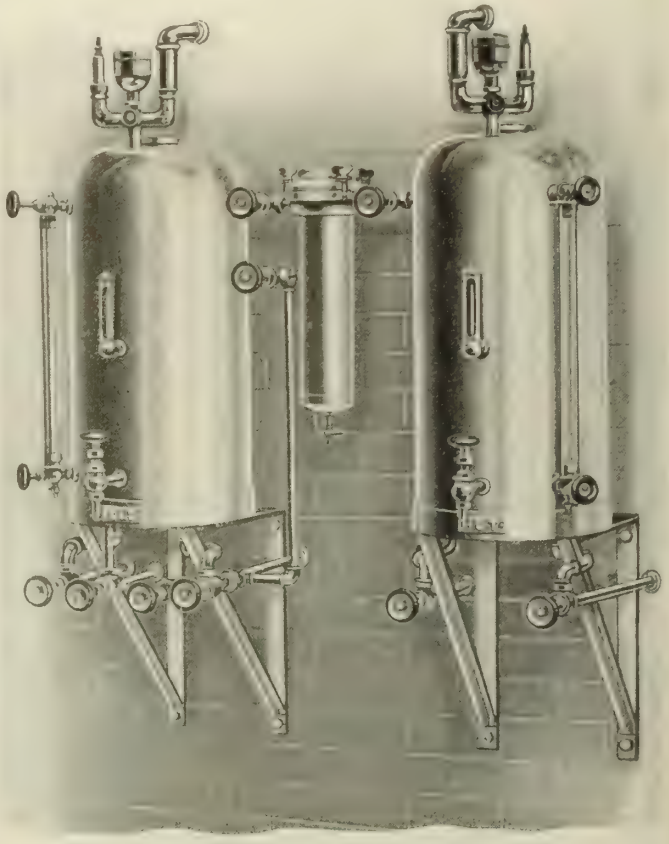
NEW INSTRUMENTS *and* APPLIANCES

Vincent Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

Improvements in Placing Sterilizing Apparatus and the Prevention of Escape of Steam Into the Room.

Up to the present time it has been customary to set sterilizing apparatus on iron stands resting on the floor. This method is attendant with many disadvantages. In the first place, it occupies valuable space, and the enamel on the stand soon becomes damaged owing to the habit of nurses of resting their feet on the lower rung of the stand.



Sterilizers supported on wall brackets.

The second and more serious objection lies in the fact that it is difficult, and in fact almost impossible, to clean the floor around the feet of the stand. There is always more or less of an accumulation about the base, as dust and dirt collect, and attempts to mop up the floor only tend to force this further under the stand and render it even more inaccessible.

The illustration shows sterilizers supported on wall brackets, by means of which all of the above objections are overcome. This system has been installed in the new buildings of Bellevue Hospital for the first time, not alone

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Antisheep Hemolytic Amboceptor Paper, 10 tests.
Antisheep Hemolytic Amboceptor, 1 cc.
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with water sterilizers, but with dressing, utensil, and instrument sterilizers as well.

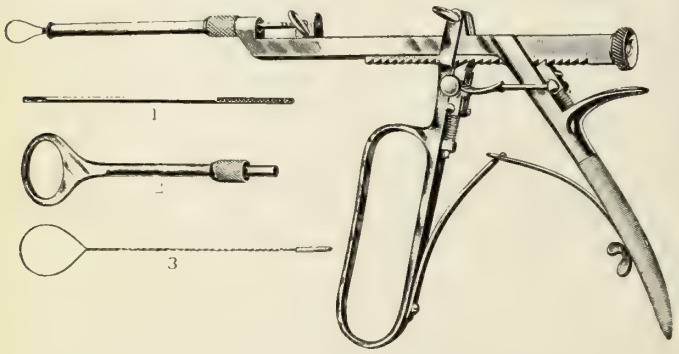
In the illustration is also shown an improvement for the purpose of preventing the escape of steam into the sterilizing room, which was a fault to be found in most hospitals whenever the safety valve released itself. This defect has been overcome by the use of two safety valves—the one that is exposed to set at a considerably higher point than the ordinary sterilizing pressure, while the second one is set only a few points higher and is covered with a hood leading into a vent pipe in the wall. This latter safety valve is released first and the steam is carried off into the vent pipe. This procedure has been found more certain and more desirable than the use of a pressure regulator.

The escapement of several sterilizers together can be let into a wall vent or out through the roof by the so-called Hendrickson system. In either case there must be a condensation vent below the exit.

A New Tonsil Snare.

DESIGNED BY DRS. L. D. GREEN AND A. L. GREEN, SAN FRANCISCO.

The fact that so many different tonsil instruments have been invented during the last few years seems to indicate that many of those that are on the market are not as well adapted to the work as their inventors or manufacturers would have us believe. The trouble appears to be, mainly, that with most of the instruments offered the work can be done only by one given method as pointed out by the inventor. It is a fact, however, that it is impossible to remove every tonsil (especially in these days of tonsillectomy) by one certain method, and an operator is therefore compelled to have a number of different tonsil snares or guillotines at his disposal.



This obstacle has been overcome to a large extent by this new snare, because it can be used for any of the three best known methods—first, as a short wire loop snare with wire carrier (1); second, by fastening prepared loops (3), which are furnished with the snare, by means of the thumb screw to the carrier post; third, by changing the canula and inserting tip (2) in connection with loop (3), for operating by the Sluder-Beck method of enucleating the tonsil with the capsul without previous dissection. By employing any of these methods, the distal end of the instrument engaging the tonsil remains absolutely stationary, whether slow or rapid snaring is done, and consequently one is less liable to injure the posterior pillars.

Taking these various good features into consideration, it seems that this instrument should recommend itself to the hospital superintendent, who, as a rule, has to satisfy the wishes of a number of specialists in regard to their methods of operation.

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3000 units in syringe-container..... 3.00
5000 units in syringe-container..... 4.50
10,000 units in syringe-container..... 7.50

Tetanus Antitoxin (Slee's refined and concentrated globulin solution)
1500 units in syringe-container.....$2.50
3000 units in syringe-container..... 4.25
5000 units in syringe-container..... 6.00

Antistreptococcic Serum (Slee's)
10 Cc. in syringe-container.....$1.50
10 Cc. in vial..... 1.25
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In packages of two syringes of 15 Cc. each, with special needle and stylet, per package.$5.00

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Glycerinated tubes, per box of 5 tubes.....$0.75
Glycerinated tubes, per box of 10 tubes..... 1.50

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In less than half-dozen lots, per box..... 1.50

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Per dozen boxes of three ampules each.....$ 7.50
In less than half-dozen lots, per box..... .75

Strepto-Bacterin (Polyvalent) (Scarlatina-Bacterin)
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In less than half-dozen lots, per box..... 1.50

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Paucity of New Things at the Congress.

London, September 10, 1913.

The Seventeenth International Congress of Medicine was in session here from August 6 to 12, inclusive, and in connection with the scientific programme was an exhibition of surgical and scientific instruments and apparatus, electromedical and x-ray apparatus, pharmaceutical preparations, medical books, and equipment for use in hospitals.

The exhibit was organized by the *British and Colonial Druggist* (a trade journal) in the interest of the finance committee of the International Congress. The various booths were very nicely arranged, and the decorations were of a uniform design and color.

The organizers of the exhibition distributed a descriptive catalogue and guide, and also provided for a series of awards for the best exhibits in the various sections, as follows: first prize, diploma of grand prix; second prize, diploma of gold medal; third prize, diploma of silver medal; fourth prize, diploma of bronze medal.

There were a few new instruments and apparatus shown which may be of interest to the American profession and hospital superintendents, and these will be described and illustrated in future editions of this journal. Taken as a whole, however, the writer, as well as many of the American surgeons and medical men who attended the Congress and examined the exhibits, were somewhat disappointed. We expected to find many new and improved appliances not yet in use in our country, but found actually that the majority of the exhibitors, especially the English firms, confine themselves mostly to the inventions of the men of their own country and do not, as is the custom with the first-class surgical supply houses of the United States, bring before the profession the new inventions and improvements of the whole world.

On bringing this subject to the attention of some of the exhibitors, they were of the opinion that the American medical men were more extensive travelers than their foreign colleagues, and that this fact, no doubt, accounted for the demand for the new and improved instruments which they had seen in the countries visited. It is, no doubt, a fact that our professional men are more liberal in taking up inventions of their European colleagues, if there is only the slightest improvement over what they have been using.

The exhibit of electromedical apparatus occupied proportionately large and prominent space, with a complete assortment of the product of the leading French and German manufacturers. Among new apparatus a special switchboard and chair for the treatment of obesity according to the method of Dr. Bergoni deserves mention.

The repeatedly attempted subject of stereoscopic fluoroscopy found an exponent in a fluoroscope working from a high potential commutator x-ray transformer in connection with a synchronous motor. While the model exhibit had great limitations in practical work, owing to its complicated mechanism, leading x-ray men expect valuable assistance from a somewhat more perfect design to which expression was given in the inaugural address of the section of radiology. Stereoscopic radiography in plates or apparatus exhibited was completely absent, with the exception of a beautiful display of plate reduction by an American röntgenologist in the scientific section.

A cinematographic apparatus was shown by a German institution of learning, which permits the taking of pictures of parts of the anatomy under motion, such as a single heart-beat represented by twelve successive radiographs, the movement of articulation, the changes in the colon through peristalsis, etc.

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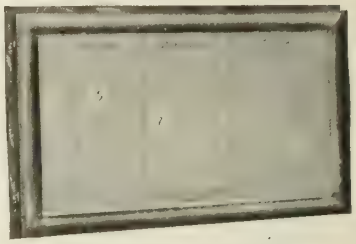

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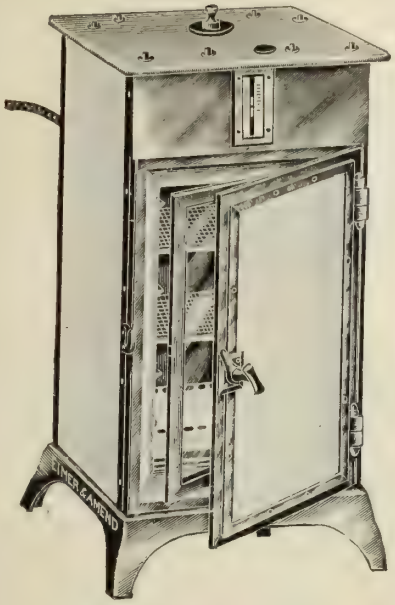

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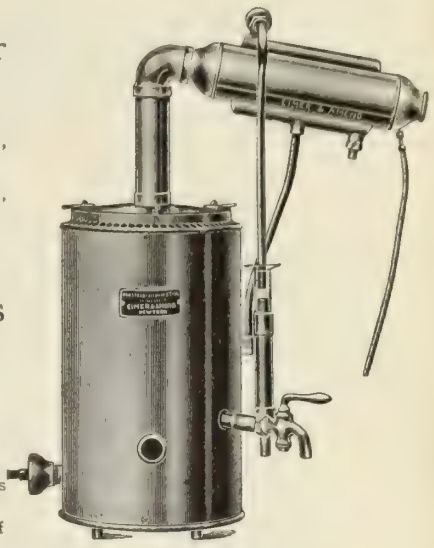

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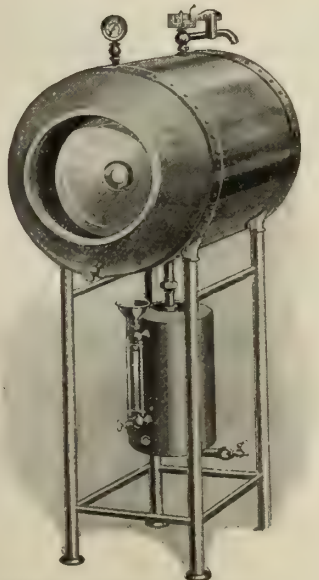

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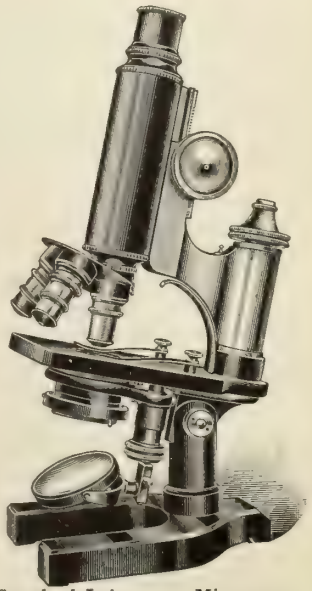

Standard Laboratory Microscope

A New Fracture Clamp.

This clamp, which has been devised for Dr. Hackenburch, of Berlin, seems to offer some advantages in certain fracture cases in that it is easily adapted in complicated as well as simple fractures. Extensions can be made with comparative ease, and the claim is made that there is no likelihood of stiffening of the joints, muscular atrophy, nor hypostatic pneumonia.

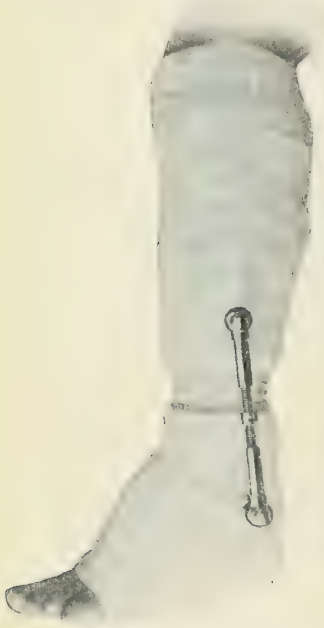

Fig. 1.

Fig. 2.

The fracture clamp (always used in sets of two) consists of two fastening wings, imbedded one on either side of the fractured limb in a plaster of paris bandage, and two sleeves forced apart by turning the expansion screw and serving to draw apart the bone fragments. The fastening wings are connected with sleeves by ball-and-socket joints, permitting movement of the fastening wings in all directions and fixation of same in any position by means of set screws. The arrangement permits of adjustment of the bone fragments with accuracy.

In case of a diagonal fracture of the tibia and fibula combined, with dislocation of their fragments, the fracture should be radiographed as soon as possible, and the clamp adapted in the following way: The knee of the patient is brought into rectangular position and an elastic stocking placed over the leg from toes up to the knee. Bolsters consisting of pulverized rubber cushions are fastened by bandaging tightly under the patella and underneath the ankle. Above this is placed a very thick plaster of paris bandage from the toes up to the knees. As soon as the bandage is hardened, the dressing is cut through in a circular way in the plane of the fracture, then both wings of the clamp are fastened by means of plaster of paris bandages so that the expansion screws of both clamps are in about one plane with the circular slit of the bandage. The clamps now serve as supporting splints, the patient remains in bed until the following day, when extension is commenced by turning the expansion screws, Fig. 1. After the bones are brought into a position, another plaster of paris bandage is placed over the gap which has been formed in making the extension (Fig. 2), and, after hardening, the operation is completed. It is stated that in a case of fracture of the tibia or fibula the patient, with clamps in position, has no difficulty in walking from seven to eight days after the fracture is set.

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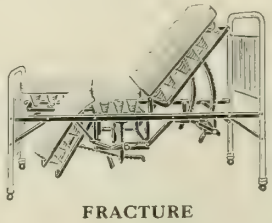
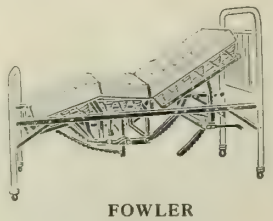


FRACTURE



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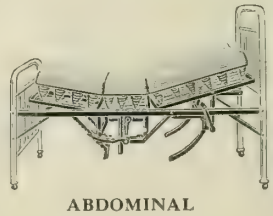
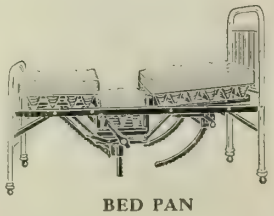


ABDOMINAL



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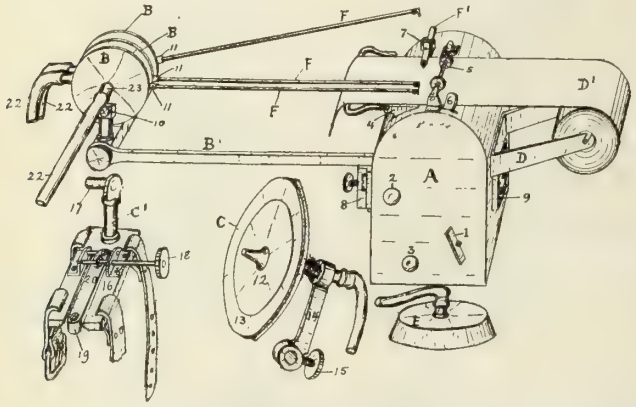
Modification of Dr. Mackenzie's Ink Polygraph.

This new polygraph deserves mention for the reason that it is of somewhat simpler form than other types, easier to adjust, and is the first reliable polygraph to be manufactured in this country. Instead of using smoked paper, ink with suitable pens is used, making a far more practical instrument where long tracings are required.

In investigating any movement caused by the circulation, it is necessary to record at the same time some standard event whose position in the cardiac cycle is fixed and determined. Hence it is necessary that two events be simultaneously recorded—the one to be investigated and the standard movement. The best and most reliable standard movement is the arterial pulse—radial and carotid. With the ink polygraph these movements can be recorded by one lever, while the movement to be investigated is recorded by the other lever. Other movements, as those of the respiration, can also be recorded with the third tambour.



Dr. Mackenzie's Ink Polygraph.

The most important parts of the ink polygraph may be described as follows: the body A, containing the paper rolling and time marker movements; the writing tambours B B B, with supporting bar B^1; wrist tambour C, with attachment C^1 for strapping on to wrist; paper roll bracket D, paper roll D^1, pens F F F, and time marking pen F^1.

The body A has also a few other details requiring description. At the end of the machine are three keys: the larger one (1) is for winding the paper rolling movement, the top smaller stud key (2) is for winding time marker movement, and the bottom one (3) regulates the speed of the paper passing through the rollers, the direction required being indicated by the letters F and S (fast and slow). On the top are the writing table (4) and friction rollers and tension spring (5) for passing along the paper. Behind these, to the right, is the start and stop lever (6) and to the left the fork (7), carrying the time marker pen F^1. This fork vibrates at the rate of 300 per minute, an equivalent to one-fifth of a second. The cut illustrates all these points.

Attached to the case are two sockets, the square one in front (8) for holding the supporting bar of the writing tambours, while the other one behind (9) supports the paper roll basket.

The writing tambours with their pen levers (11) are fitted with friction joints (10), enabling the pens to be adjusted to any desired position on the paper or lifted entirely away when not writing. Micrometer screws are provided for fine adjustments.

The pen levers have each a small spring at the end which presses on and holds the pens in the grooves cut out to receive them.

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By using a drop cord switch attachment, one lamp at a time can be lighted, so that any degree of brightness may be attained. Then, when the actual operation is about to take place, all the lights can be turned on, thus flooding the room with a mellow, glareless, shadowless light that is ideal for the operating room.

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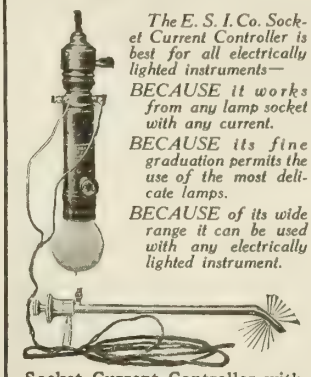

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The rubber membrane is held in position by a silk thread which encircles it. The tambours have inlets (23) for attaching connecting tubes (22), as shown on cut.

The wrist tambour C is in two parts:

First, the splint (16), which is strapped on the wrist, is fitted with spring tongue and button (19) that rises and falls with the action of the pulse, and an eccentric (20) and regulating screw (18) for increasing the resistance on the artery; second, the tambour with supporting arm (14), rubber membrane (13), and compression disk and peg (12). This latter part is not placed in position until the artery has been correctly located and the maximum movement of the springs and pulse button obtained. The two parts are held together by the clamping screw (15) in the supporting arm binding on to the pillar (17). The tambour itself is also secured by a binding screw.

The paper roll bracket D has a roller running in slots at the end of the bracket arm. The roller is thus kept in position and the paper roll fits loosely on it. Two large disks guide the paper.

The receivers E E are shallow open cups, with a nipple passing out of the roof, to which an india rubber tube is attached, the other end of the tube being attached to the tambour with the writing levers. When placed over any pulsating part in such a manner that no communication is made with the outer air, the movement within the receiver is conveyed to the tambour and writing lever.

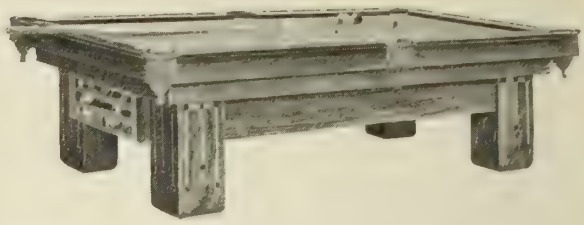
All the pens F F F and F^1 have small ink receivers (elongated cavities) at the end, and the split pen conveys the ink to the paper. The fluid used is a composition of 1 drachm of methyl blue to 16 ounces of water.

A New Sanitary Waste Pail.

This pail has been designed as a receptacle for soiled dressings, bandages, etc. It is constructed of noncorrosive metal, with a bail and handle fitted into a white enameled steel body, having a close-fitting nickel-plated cover. The cover is opened and closed automatically by means of a foot pedal. The construction has been so worked out that the travel of the pedal is very short, making the opening

Sanitary Pail.

and closing of the cover more convenient to the nurses or assistants than in most waste receptacles built along similar lines. On account of the novel construction, the pail may be lifted out of the white enamel steel body and emptied without soiling the hands; turning the bail by the handle to the right engages slots in the white enamel steel body, and the entire receptacle can be picked up by the handle and carried from room to room. The cover is seamless, close-fitting, and is heavily nickel-plated.



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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical and Nursing Services

Vol. I November, 1913 No. 3

HYDROTHERAPY IN THE TREATMENT OF THE INSANE.[1]

Details of Methods and the Physics and Physiology of Various Applications—How the Work is Actually Done.

By MARY O'MALLEY, M. D.

SENIOR ASSISTANT PHYSICIAN, GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.

THE work of the last ten or fifteen years has established hydrotherapy in the treatment of mental diseases on a firm basis in this country, so that it can no longer be disregarded as a valuable means of practical therapeutics. At various periods in the history of psychiatry there have been sporadic attempts to treat the insane by hydriatic means. The old-fashioned ducking pool, where patients were thrown "headlong into a cold bath," repeated until the patient was too exhausted to leave the bath without assistance, may be cited as an early attempt at hydrotherapy. The elaborate therapeutic plants, with appliances for the use of all the various baths, which in recent years have been installed in most of our psychiatric hospitals in this country, are indications of the present-day demands for hydrotherapeutic treatment, which, especially in the disturbed wards of our psychopathic hospitals, has brought about markedly improved conditions.

The government hospital was one of the first in this country to recognize the value of water in the treatment of mental diseases. Hydrotherapy was introduced in this hospital in 1897 by the late Dr. W. W. Godding, under the direction of Dr. Foster, who applied it first as a remedial agent in the form of packs in the wards and by means of improvised continuous baths while awaiting the construction of the plant, which was then in the process of installation. In the year 1898 this new outfit was completed in the basement of the Oaks Building, which was at that time occupied by male patients, and was used effectively. This same plant has been in constant use ever since, for the past ten years the Oaks Building being occupied by colored women, and at the present time in this one hydriatic department alone are treated daily from forty to fifty colored women. Some of the results of this early work of Dr. Foster are reported by him in a paper in the *American Journal of Insanity*, 1899. Baruch, the great American hydrotherapist, referring to this article, states that "Dr. Foster was the earliest asylum physician to seek instruction in hydrotherapy from the author; to his able clinical demonstration is the phenomenally rapid adoption of hydrotherapy in asylum practice to be traced." Ten years ago, in 1903, the work was extended by the completion and opening of two new psychopathic buildings, one for male and one for female patients, and in the basement of each building is located a complete hydriatic plant. Thus we have three hydric departments, in addition to the continuous baths which are located in each of the receiving wards, in constant use in the hospital.

There has been great interest in our work displayed in this country by members of the medical profession visiting this hospital, who themselves are organizing hydrotherapy departments in their institutions, or who have such departments

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already installed, and are earnestly seeking the best means of the employment of water effectively. We have frequently received inquiries as to our methods of psychiatric hydrotherapy, together with communications requesting our recommendation of suitable persons to conduct similar departments in other hospitals, both general and psychiatric.

It is to be deplored that the application of water was not earlier adopted and has not been more fully appreciated in the past in our hospitals for mental diseases. The effects we have obtained from the use of hydrotherapy in this hospital have been extremely satisfactory, for by it we are enabled to exclude all forms of restraint and, in a large degree, isolation. The longer we use hydrotherapy, the more we are convinced of its unrivaled supremacy over all other means of treating certain symptoms, and the conviction becomes stronger every day from the results obtained and from the extensive scale in which we have been able to employ it.

There is little opportunity for the medical student of today to have a comprehensive grasp of this special branch of therapeusis. The average text-book on therapeutics rarely refers to this subject, and when it does the information is, as a rule, unreliable, and, with the exception of Columbia University, where a course of lectures and clinical demonstrations has become obligatory in the past few years, this study has been entirely neglected in this country.

As a rule, hydrotherapy is not looked upon with special favor by the general practitioner, and the average psychiatrist is more or less ignorant of its use. Baruch, in discussing this subject, says: "It is a sad commentary on the lack of interest displayed in hydrotherapy to note that, despite the fact that a few discerning minds have grasped the principles and applied the technic of hydrotherapy in insanity, the majority of hospital physicians seem to the writer to be unaware that precision and exact technic are the essentials of successful hydrotherapy." The attitude of indifference among the profession is, for the most part, due to the fact of its extensive advertising and its use by charlatans and quacks. Then, again, on the other hand, many conscientious physicians have become disappointed when the results they expected were not realized, but this is probably due to the fact that they anticipated too much from hydrotherapy, or had an insufficient knowledge of the physiologic and therapeutic action and methods of application. The remedy for this indifference and inexperience is the introduction of a complete course of compulsory instruction in the curricula of our medical colleges and an education of the general practitioner by reading works on hydrotherapy.

In this paper there is no pretension to offer any new observations in the application of water as a therapeutic agent, but the reasons above enumerated are in a degree an incentive for placing this article before the public. Therefore, we will confine ourselves to the discussion of the problems which are of current interest in this mode of treatment in a large public institution. These problems are in part scientific and in part practical. The chief scientific problems at the present day are undoubtedly the correlation of the use of water in the general scheme of treatment in a hospital of this class and the best methods of application to produce effectiveness, while the practical problems to be considered are the resources, expense, personnel, technic, etc. Then, we will first consider the physiologic action with its application to mental disease, the general management and organization of the work, the nature of the methods, the measures employed, including the various means of employment, its therapeutic use, with a summary of the results obtained thereby.

PHYSIOLOGIC ACTION.

It is recognized by all today that there exists a rational basis for the employment of hydrotherapy. During the past half century the work of Winternitz, Baruch, and others has established the physiologic principles on which the action of water on the human economy depends. Water has a wide scope of application in pathologic conditions, deriving its varied powers from its capacity for gradation. It can be used as a vapor, a liquid, or a solid. It can be used in applying heat and cold to the body, as an unadulterated agent, or with medicinal properties in solution added. It can be applied with various degrees of pressure in the form of showers, sprays, etc. The physical forces—cold, heat, and pressure—produce the physiologic action from which the resultants are received that combat disease. The physiologic action is produced through the skin or surface of the body, and the reaction of the blood vessels and nerves in the skin to the physical forces applied by the water is an indication of the effect produced by it. The physiologic effects are eliminative, stimulative, sedative.

Cold.—The effects of the employment of cold water on the body vary with the degree of temperature and the duration as well as with the extent of surface exposed to this stimulus. The prolonged use of extremely cold applications lowers the body temperature as well as the vitality of the parts exposed. Cold water exercises a powerful influence on the nervous system, respiration, temperature, and circulation, as well as on

the blood pressure and musculature. When the body comes in contact with cold water, the patient experiences a light shock, a lively sensation of cold; the muscles tremble, there is a quick inspiration, then a pause, followed by a long expiration, then frequent shallow breathing. These transitory conditions are soon replaced by warmth and repose. The first effect of cold on the periphery is to cause contraction of all the tissues of the skin—vascular, muscular, and fibrous—producing a diminution in the caliber of the cutaneous capillaries and an increase of blood to the deeper bodily structures. Promptly the healthy afferent nerves

Fig. 1. Continuous bath. Government Hospital for the Insane, Washington, D. C.

signal for a greater supply of heat, and the efferent nerves respond by causing a dilatation of the blood vessels in the chilled area, with an accompanying hyperemia of the peripheral circulation. This is accomplished by increased heart action, raising of blood pressure, and the vasodilatation causes an increase in the secretions of the skin. It is claimed that after the muscular fibers of the skin contract under the influence of the cold they retain more or less of this tonicity, serving as a check to the subsequent overdilatation of the blood vessels, and thus maintain a higher blood pressure. We thus have a local effect on the circulation when a peripheral contraction is followed by a dilatation of the blood vessels, provided the application is brief enough. Too long an application causes a paralysis of the cutaneous blood vessels, with cyanosis—hyperemia of an atonic variety. After the first vasodilatation takes place, a pleasurable sensation of warmth that induces calmness and a feeling of well-being exists. This is described as "the reaction" in cold baths. To obtain it in the greatest degree, caution should be observed to apply the stimulus in relative proportion to the patient's physical resistance or reactive capacity. If a reaction is not established, a dangerous congestion of the viscera may result. After the first effects of the cold, if the heart is strong enough to return the blood to the surface, there has been a healthy flushing of the internal organs, with their increased activity. Dr. Dana, discussing the effects of cold baths, says: "Cold baths systematically taken furnish a kind of vasomotor gymnastics; the neuromechanism controlling the blood vessels becomes more subtle, and the tendency to local congestion of the viscera and mucous membranes is prevented."

In cold baths the immediate effects should always be tonic or stimulating, and careful attention should be given to obtaining a reaction—that is, a prompt return of the blood to the surface vessels. It is difficult to define a reaction, and opinions differ in regard to it. This is especially true when the patient feels exhilarated and warm immediately after the procedure, but becomes chilly on the least exposure, or spontaneously in the next half hour. The rapidity and degree of reaction vary greatly in different individuals, and there is also a variation in the reaction in the same person at different times, according to the patient's condition. Some weak and sensitive patients never can be made to react, and even healthy people should use caution in taking these cold baths when they are tired. In our experience failures to react are always associated with slow peripheral circulation. The reaction is tardy in the feeble and the weak, but develops rapidly in the robust.

Heat.—We know that heat is one of the most powerful stimulants, and, if the application is prolonged, it becomes depressive, and this depression may remain for some time after the treatment has ceased. The initial effect of heat is stimulating when applied to the skin; first there is a vasoconstriction of the cutaneous capillaries, which in cold applications is maintained, but with heat is rapidly replaced by vasodilatation, with a lowering of the blood pressure, which persists as long as

the heat is applied. Heat calms more slowly than cold, and in a gradual and insidious manner. From long and repeated hot baths there is a lessened heat production, a lowering of blood pressure, and an elevation of the body temperature. These all diminish nervous and muscular energy, bring about exhaustion, and have a depressing effect on the heart. It follows that the application of prolonged heat must be avoided with as much care as the application of cold should be encouraged and promoted. The hot pack has, however, a sedative action, and after the vascular dilatation in the cutaneous circulation the body becomes warm, sweating is increased, and radiation is promoted. From this increased circulation in the skin the cutaneous sensibility is lessened, blood is withdrawn from the central viscera, the exhalation of carbon dioxid is increased, metabolism is increased, pulse and respiration are increased, and the general effect is sedative and a feeling of languor ensues.

Pressure.—The forcible impact of water upon the body by the needle douche and shower at a given pressure acts like a general massage on the human body. Its application does not abstract heat, but by the force of the water the superficial blood vessels are first contracted, then dilated, and the general tone of the circulation and musculature, as well as of the secretory functions of the skin, is improved. This force is applied effectively either with hot or cold water, or a combination of both. The pressure may be applied with such force as to cause considerable depression and languor lasting for several hours. The general effects of this treatment are tonic and sedative as well as eliminative.

Tuttle, under whose observation some experiments were made in the McLean Hospital, discussing the effects of baths, states: "While my observations thus far do not sustain some of the claims made for hydrotherapy, there are sufficient reasons for its use; not the least of these is the fact that it can be adapted to the physical condition of any patient. It seems to act like exercise on the respiration, circulation, blood pressure, and temperature without exertion on the part of the patient. There probably is also a very prominent effect on the action of the blood vessels, as is shown by the quicker and more perfect reaction with the continued use of the baths."

Psychiatric hydrotherapy has not yet reached the maximum of its usefulness; it is still in its infancy, and there remains a large field for its extension to secure for water its proper place in this special branch of therapeusis. It is only within recent years that an attempt has been made to establish psychopathic pavilions and introduce a general hospital atmosphere into our institutions for the insane. Together with this innovation psychiatric hydropathy has been coordinate. The use of water as a medium in its various forces markedly influences all the vital processes, thus making it valuable as an application in mental diseases. Hydrotherapy is exceptionally adapted to treating diseases of the nervous system, but more especially in cases of mental alienation, with the accompanying various somatic disorders, including disturbances of the secretory and excretory functions, anemia, loss of appetite, reduction of weight, insomnia, etc. In excited states the sedative effects calm the patient by relieving cerebral hyperemia. In toxic psychoses as an eliminative it is unsurpassed. Its general effects are stimulative and tonic in impaired nutrition and enfeebled circulation.

EQUIPMENT OF THE PLANT.

All large public institutions for the insane should be provided with several hydriatic plants, centrally located, so that the chronic excited class, as well as the acute, can derive the benefits from the water treatment. The relatively small financial means at the disposal of persons in the care of the insane convinces the writer that this unfortunate class is the least adequately provided for of hospital patients. This condition compels us to confine our hydrotherapeutic procedures within narrow boundaries, and forces a limitation of the work. It is not, however, necessary to have an elaborate plant installed to apply hydropathy in a practical way. One can use such appliances as are ready to hand or can easily be devised, and the principles already studied can be utilized. For instance, we can improvise a continuous bath by using the ordinary bath tub, placing two sheets across it, and, if the edge of the tub extends, fastening the sheets in place with clothes-pins, etc. Many elaborate appliances of all descriptions have been devised, but they are found to be more or less useless in practical application.

The hydrotherapy of the alienist has to contend with the most circumscribed possibilities, and a practical knowledge is necessary, for only such hydrotherapeutic measures are applicable in institutions as are especially suited to the conditions and requirements that exist there.

MEDICAL COOPERATION AND CONTROL.

The most important requirement of every hydrotherapy department is an extensive medical cooperation and control. There are scarcely any large public institutions in this country in which a single physician has less than 200 patients in charge. Under such conditions it is absolutely

necessary to limit the hydrotherapy, and the treatments must be confined to measures which dispense with the presence and immediate supervision of the physician and in which only instructions are required. The carrying out of such instructions must be left to the bath mistress and her assistants, and the usual number of nurses, one to seven or eight, in the psychiatric hospitals in this country is much too small to allow them to be occupied with needless work.

In the selection of the methods of treatment the personnel in attendance must, first of all, be taken into consideration. The attendant in charge should be well trained and should have had a wide experience in the sick room—should be one who is constantly vigilant, and who is quick to recognize danger signals. She should be tactful, kind, and alert to any complications that may arise while performing her work. In this hospital

Fig. 2. A row of packs. Government Hospital for the Insane, Washington, D. C.

every nurse in training is given a special course of instruction in the hydrotherapy department. As a rule, the length of term of this course is limited to one month, and during this time the nurse is not required to perform any other duties, but is under the supervision and instruction of the bath mistress, who treats daily, on an average, 100 patients in both departments, white and colored. She is taught the application of various baths, how to manage the control table, and is instructed in all the precautions to be observed to avoid complications. When this young woman is graduated and assumes the charge of a ward, she is prepared to carry out and apply her knowledge in giving these treatments in any department of the hospital. Through this means we are able to extend the baths as packs, shower, and spray in all wards.

THE NATURE OF THE METHODS EMPLOYED.

The methods must be of so simple a nature that such training is possible as is required to make the treatments efficacious and harmless. They must be of such a character that, on the one hand, they relieve the personnel of very great responsibility, and, on the other, reduce the contingent circumstances to such an extent that strict and comprehensive instructions can be given for their application. This necessitates fundamentally confining ourselves to the simplest forms of hydrotherapy—to the exclusion of any complicated measures. Complicated procedures are incumbered by another great disadvantage, for even a carefully trained nurse may be persuaded by a patient to attempt to experiment with specialties in the hydrotherapy room if the opportunity offers itself. For these reasons the writer would exclude all novelties in hydrotherapy in large institutions, even if there were not, as there is today, a most deciding factor against them—namely, the relatively small financial means at our disposal, which makes saving the great principle and everywhere the guiding object. Only when all complex methods are dispensed with is hydrotherapy a cheap method of treatment.

Therefore, the demands on the physicians, insufficiency of personnel, and the lack of funds limit not only the extension of hydrotherapy qualitatively, but also quantitatively restrict its sphere, necessitating the relegation of the more complicated measures to the clinical side and to the receiving wards. For all other patients the most primitive methods of hydrotherapy alone are to any degree practicable.

The most important sphere for hydrotherapy is in the psychopathic wards or receiving service.

These wards are the most important section of any institution, and, as a rule, the organization here is the standard of its methods and character. This section receives the best part of the possibilities of institutional treatment, for here the most difficult questions in the management of the hospital arise. Hence this department is the most important domain for the extension of hydrotherapy in the hospital.

Hydrotherapy is capable of good and it is also capable of doing harm, and all conditions must be taken into account, so that it may combine the greatest benefits with the least possible injury. Two of the greatest benefits consist essentially in securing quietness in the day and sleep at night. These are among the main objects to be obtained —to keep the patients quiet, and, what is most important, to maintain a hospital instead of an insane asylum. The sustaining of the general hospital tone in an institution of this class is of the greatest significance to the patients. We win thereby both our position and theirs in the estimation of the public. The lack of knowledge on the part of the laity concerning the conditions which prevail in psychiatric hospitals is everywhere apparent, and, as a rule, the sources of information are the opinions and reports of those who have been released from treatment. The public will learn to respect psychopathic hospitals as they respect general hospitals when the patients who are cared for in them learn to respect them. It is in the receiving wards that patients form their first opinions, favorable or unfavorable, and it is in these sections they must learn to have confidence in the institution. It is here that the hospital atmosphere must be supported as far as possible, and to do this nothing is more important than quietness. Therefore, the writer considers quieting the patients one of the most worthy objects of the whole treatment and one of its essential problems. To secure this object every means seems right which does not require too much compulsion, or where the force required in the compulsion does not outweigh the benefit. And, to quiet a noisy patient, a hot or cold pack two or three times daily is better than to have the whole ward disturbed. On the other hand, under these conditions we can dispense with hypnotics and isolation.

Alienists should make every possible effort to educate the public to properly evaluate the psychopathic hospitals, and the dispensing with isolation and restraint, either mechanical or chemical, is one of the important factors of this advance in education. While the former may be of use occasionally, it has a harmful influence on the other patients and injures a good cause. It also has a tendency to destroy the confidence of the patient, and doing away with isolation or seclusion is a progressive factor toward humane treatment. Another result of this treatment which must not be underestimated, either from a clinical or a pecuniary view, is the reduction or elimination of sedatives. It is contradictory treatment to administer sedatives which are recognized by many therapeutists to be harmful to the patient. There are no hypnotics which are not injurious, and they have an especially harmful effect on unstable neurotic individuals. From clinical experience during the past few years many cases have been admitted to this hospital suffering from drug delirium in which we were able to trace the etiological factor to the administration of sedatives, bromides, morphine, hyoscyamine, etc., or a combination of these drugs. Then, why continue a so-called remedy which we know to be deleterious? With this elimination of medicinal treatment we meet the approval of our patients and their friends, and more especially most of the intellectual class, who are imbued with an antipathy to drugs.

Every reasonable form of hydriatic treatment should be carried out that does not produce a subjective feeling of mistreatment. In any ward the patients are few who willingly allow themselves to be placed in packs without some resistance at first, and for a small number a more or less mild compulsion is necessary. As a precautionary measure, no patient should be given a treatment unless she has first had an opportunity to see other patients treated, for, if the treatment is not immediately looked upon by the patient herself with disapproval, there are always some wise ones about to suggest abuse, and, if the treatments are to be of real value, they must not arouse the unfavorable criticism of either the patient or nurse; the tendency to such criticism is always present, and sometimes it is not without foundation. If a physician leads the patient or nurse to believe that a cold pack is given because the patient has become unmanageable or is vicious, the whole spirit of the treatment is lost. Patients, as well as attendants, should not regard the baths, and especially the packs, as punishment, as they sometimes do isolation, but rather as a beneficial medicinal remedy. From practical demonstration of the hydropathic packs and treatments the nurses soon come to have a comprehension of their pacifying effects on excitements and other mental states otherwise than from theory alone.

HYDRIATIC MEASURES.

In order to obtain the requisite degree of technical simplicity, neutrality, and efficiency, uninfluenced by individual factors, the writer limits the hydriatic measures to the continuous bath, hot

and cold packs, hot air baths, spray and needle bath, Scotch douche, and sitz bath. A salt glow or rub with moistened salt frequently is given in connection with the shower or needle.

On admission all patients, whatsoever their form of mental disease, except the senile psychoses, are given a systematic treatment in hydrotherapy. There is seldom an indication for this treatment in cases of senility, but under the supervision of a careful bath mistress the arteriosclerotic and senile excitements can be treated with excellent results in the continuous bath, cold or warm packs, as indicated; but, of course, in giving these special measures the psychotherapeutic as well as the physiologic results are anticipated.

Our continuous bath tubs are conveniently located in our receiving wards, and in a way are

Fig. 3. Properly applied pack. Government Hospital for the Insane, Washington, D. C.

independent of our hydriatic department, and this method of treatment, together with the hot and cold baths, is used in these wards at any time they are indicated. All the other patients are treated in the hydriatic department, where on an average 100 women daily receive the baths. The hydriatic rooms are in operation from 8 a. m. to 4 p. m. While there is no hard-and-fast rule for each patient, yet the cases of excitement are prescribed the continuous baths and hot or cold packs. Packs are also administered to a large percentage of patients suffering from the various psychoses where the reactive capacity is up to the standard. The shower and spray is used with all forms of treatment; it follows packs, hot air baths, sitz baths, etc., and it is given as an independent treatment in feeble and emaciated conditions. Hot air baths are used for various toxic conditions, drug, alcoholism, etc.; sitz baths for patients suffering from chronic constipation and pelvic disorders; and the spinal or Scotch douche in neurasthenics, hysterical conditions, etc.

Continuous Baths.—The continuous baths are the treatment par excellence for all cases of mental disorders. They have been used in this country for the past ten or twelve years, but have been in existence in Germany for at least a quarter of a century, being introduced by Kraepelin and others. To quote from Kraepelin, "it has been proved by experience that the treatment of excited patients in the continuous bath possesses advantages over all other treatments."

Busch and Ply have shown by experiments that the continuous bath produces quiet and not fatigue. Epstein recognizes the excellence of the continuous bath in the excitements of dementia precox and other conditions, in the excitements of general paresis, as well as for arteriosclerosis and senile forms. A bath tub especially adapted for use with a constant inflow and outflow of water, regulated by a control table, and in which the patient may be suspended in a hammock in the water, is necessary for the successful continuous bath, the head being well supported above water by an air pillow. All restraint or influence of this nature should be avoided in continuous baths; it is not advisable to even throw a sheet across the tub, but let the patients follow their inclinations—wander at will about the room. If they get out of the tub, they usually return to the bath after a chilly sensation is experienced from leaving the warm water. The duration of these baths depends to some degree on the patient's mental condition at the time. Sometimes one or two hours in the bath will relieve distressing symptoms, and, again, it will require hours or even days to subdue an excitement. The temperature of the water should at no time exceed 100° F., although it is advisable, where it is possible to do so, to vary the temperature of the water between 95° and 98° F. Our bath mistress is always instructed under no conditions to allow the water to rise above 98° F. However, with the greatest precautions sometimes in a large institution, where there is such an irregular demand on the hot water supply, the temperature of the water may rise to 100° F. or more. It is in these conditions that a serious depression or collapse may ensue.

We obtain excellent results from the association of prolonged baths with repose in bed for the treatment of excited cases. In the general treatment the procedure is as follows: the patient remains in the bath during the period of excitement, be it one or several hours, and at times the

bath is frequently extended throughout the day and occasionally into the night. As soon as quietness ensues she is placed in bed, where she stays as long as she remains quiet or until the return of the excitement. She is then placed again in the bath until the symptoms have disappeared. By this treatment we find complications are prevented, and the period of excitement is shortened and in many cases entirely suppressed; isolation and destruction to clothing and furniture are avoided and trauma lessened. This method is especially helpful in the treatment of agitated excitements, excitements of general paralysis, and the manic-depressive psychoses. We also make use of the continuous bath in cases of acute and chronic nephritis, skin diseases, ferunculosis, burns, and decubitus in any part of the body. For the latter conditions this measure acts by the removal of all irritation to the cutaneous nerves and by protecting the surface of the body from atmospheric changes.

Cold Packs.—Next to the continuous baths, the cold pack is the most valuable remedy in cases of excitement. Its immediate effects are calming, and it is apparently the most practical method, as it is available at any and all times. It was one of the first methods employed when hydrotherapy was introduced into psychopathic hospitals, and has been able to maintain its place, and the writer believes its permanence has been established as the most useful of hydropathic measures. Though the continuous bath is superior in many respects, yet this latter method cannot be well carried out extensively in large institutions for reasons above noted. It is not feasible to supply all departments of a hospital with the necessary appliances for an outfit of this sort owing to the great expense connected with it, and the pack is the best substitute. Then, again, packs need not necessarily be limited to the hospital wards; they can be given by well-trained nurses in any department where indicated. While at first it may be necessary in confused and excited states to apply them by compulsion, after the first one is given there is seldom any difficulty in administering the second. In excited cases these treatments should be administered for from forty-five to sixty minutes, and may be renewed three or four times daily. In this hospital patients are sometimes packed before breakfast, before the hydriatic department has opened for the day; the patient is again treated in the douche room during the morning hours; after her return to the ward, if she is very restless, she is again packed. These cases are often given a pack at bedtime, and it performs wonders during the night if a patient is restless or becomes excited. The limitation of the movements of a patient who is restless when placed in the pack, together with the sedative effect of the pack, are beneficial and act as a hypnotic.

In administering the cold pack the tap water is used at about 60° or 70° F., although in summer time, to regulate the temperature, frequently a piece of ice is added to the water. The method is as follows: on a rubber sheet placed on a bed or table especially made for these treatments two or more blankets are placed; two sheets wrung out of cold water are then placed upon these blankets. The patient, with outstretched arms, is placed thereon, her body in the middle and her feet about six inches from the lower part of the sheet or hem. The arms are well raised and the trunk is then wrapped in the wet sheets. The sheet is passed between the legs and thighs of the patient to prevent surfaces of the body coming in contact with each other. The arms are then brought down and the second sheet brought over them, tucking the feet and neck well in, thus enveloping the whole body in a wet cover. The blankets are then drawn firmly around the patient and tucked in well at the sides, neck, and feet, and the last one is folded and brought underneath the patient. Great care should be taken to have the sheets fit closely at the neck to prevent the ingress of air. A cold, wet towel is then applied to the head. A patient should never be placed in a pack with cold feet, as it will delay or prevent a reaction. If the feet are cold, they should be first warmed. This can be done by means of a hot foot bath for a few minutes before the patient is placed in the pack. The writer does not approve of the method advised of late by some therapeutists of exposing the feet while in the pack and applying the hot water bottle to them. This in her experience retards the reaction.

The duration of the pack depends to some degree on the condition of the patient. As a rule, we prescribe a pack of forty-five to sixty minutes' duration, although during the summer months in this climate the packs are sometimes limited to thirty minutes. As soon as the patient comes in contact with the cold sheet which serves to envelop her she experiences a mild shock, which lasts from five to fifteen minutes. At this time heat from the body accumulates between the wet sheet and the skin without being able to escape and radiate from the surface. The animal heat, for the moment lowered, now increases, circulation is exhilarated, there is a hyperactivity of the whole cutaneous circulation, glands of the skin respond, and the body is covered with a profuse perspiration, and toxins are eliminated. In the calm which follows the patient, as a rule, sleeps.

After the pack she is placed under the needle and shower at a temperature of 100° to 110° F. for one minute, then 70° F. for ten seconds, rubbed, dried, and dressed.

Although packs of several hours' duration are recommended by some physicians, the writer cannot, from her experience, under the conditions prevailing in large institutions, advocate them. For separate cases, where the physician can give his personal attention to the procedure, they may be successfully carried out, but experience shows that there is danger of collapse in some cases where the responsibility of a prolonged pack is transferred to a nurse who has an inadequate knowledge of the physiologic conditions involved. The collapse in the pack is due to a failure to react. The absence of these signs of reaction, and especially the presence of a sense of dullness following a general cold application, constitutes a failure of the organism to respond to temperature changes.

Our bath mistress and nurses are instructed when using the cold packs to watch for the reaction and, especially when treating the patient for the first time, to frequently pass her hand between the covering and the patient's body, and after a period of ten or fifteen minutes, if the body is not warm, to immediately remove her from the pack and place her under the warm shower and needle.

Hot Packs.—The procedure of the hot blanket pack is very similar to the cold pack. Three or four blankets are placed on a bed or pack table, and one blanket, having been quickly wrung out of hot water, is folded and laid on these several blankets. The patient is placed on the hot blanket and it is snugly wrapped around her to retain as much heat as possible; the other blankets are quickly rolled around the patient and folded underneath her, and the hot water bottle is placed at her feet. After a patient is taken from a cold pack, the sheets are warm, but after the hot pack the blankets are cool, showing a lessened heat production.

Hot Air Baths.—These are one of the most important features of the hydropathic department, being valuable as an eliminative agent. They may be used as an independent procedure, followed by the shower and spray, or in conjunction with other forms of hydrotherapeutic treatment, although all patients have not the physical endurance for such heroic measures. The patient is placed in the hot air cabinet, with a towel wrung out of ice water about the neck, and she is kept in it until a reaction is established or until she begins to perspire. She is frequently given cold water to drink during the procedure, as there is an excessive loss of fluid. When perspiration sets in, there is frequently a sensation of nausea or faintness, which one must be prepared for, as it may sometimes be a danger signal. This bath may be usefully employed in alcoholic and drug cases, also in toxic conditions from acute renal diseases, etc.

Sitz Bath and Perineal Douche.—This is a means of applying water to the pelvis and lower abdomen as far as the umbilicus. The patient is seated in a special tub, with the lower part of the trunk immersed, and the feet in a foot bath. It is a means of influencing the circulation of the large blood vessels in this portion of the body. This treatment is very useful in disorders of the abdomen and the pelvic organs, including hemorrhoids. Warm or hot sitz baths of fifteen to twenty minutes are very effective in chronic constipation, the patient massaging the abdomen while in the bath. The temperature of the water may be increased or diminished as indicated. Other therapeutic indications for use of sitz baths are the various menstrual disorders, irritation of the bladder, affections of the vulva, etc.

One of the most popular modes of treatment which is administered in this hospital is the needle shower and spray, which every patient receives either as an independent prescription or in combination with other forms. It is a method by which temperature, force, or pressure is applied to various parts of the body, being always used after the pack, the hot air bath, the sitz bath, and the other hydrotherapeutic measures. Brief applications of cold and hot water delivered under high pressure or by good mechanical rotation are beneficial in all cases, even in anemic cases where the resistance is low and the patient is in feeble physical health. Needle douches do not abstract the heat, but, by the force of the water, they bring on a reaction and cause the superficial blood vessels to dilate. In order to demonstrate the douche method properly, it is advisable to have a water regulator which permits the bath mistress to change rapidly the temperature as well as the pressure.

The needle douche should be regulated so that it will spray equally over the whole expanse of the cutaneous surface, and so that the temperature can be rapidly changed. The force of this douche should be extremely gentle at first—about ten, or, at the most, 15 pounds pressure, which can later be increased to 30 or even more—so that the patient may be protected from shock. The duration of the douche, needle, and spray will always depend on the endurance of the patient, and, as a rule, varies from one to three minutes. It is not necessary to prolong it indefinitely to obtain a

very sedative action. Experience has shown that a douche of from two to three minutes nearly always produces the calming effect desired. In the writer's opinion it is useless to continue it longer, and in exceeding this limit which she has indicated one runs the risk of fatiguing the patient instead of calming her. It is better to give two well-regulated douches a day than to administer a single one of too long duration. These treatments are renewed every day, and when the patient shows a certain tolerance for the cold the temperature is gradually lowered and the pressure increased. To produce the calming effect and to improve the general tonicity, the spray baths should be continued over a considerable period of time. Often the temperature douche alone is sufficient to produce results without any accessory treatment.

In neurasthenic and hysterical conditions sometimes the Scotch douche has a beneficial influence. The Scotch douche is applied by a forcible jet or stream of water, which may also be applied in the shape of a fan, driven with a certain regulated force against the spinal column and rapidly passed up and down the back. The pressure in this procedure varies; it is well to begin at 10 or 15 pounds pressure, and this can be gradually increased, as the endurance of the patient improves, to 30 or 35 pounds. The temperature can also be gradually changed according to the prescription.

Summary.—There is no doubt that cold applications to a large portion of the body reduce the surface temperature and increase the amount of blood to the internal organs, and, if a prompt return of the blood to the periphery is not established, a dangerous congestion may result. One patient is benefited by numerous cold applications, another is injured by the cold water—as the physician learns, not from the word of the patient, but from his own observations—yet this same patient receives good results from the warm water. If an attempt is made to establish as a standard and rule those proceedings which have been useful at one time, it not infrequently happens that one is disillusioned by later experience. The necessity to adapt the temperature, duration, pressure, etc., to the physical strength and endurance of the patient must always be kept in mind. As a general rule, asthenic individuals and those suffering from arteriosclerosis should not be subjected to cold packs. It throws too much work on the inelastic blood vessels. Nor should we apply general cold applications in states of exhaustion, collapse, during a chill, nor should anemic or emaciated patients be given treatments that abstract too much heat from the tissues. The use of the hot pack as well as the cold has its limitations. It is for the young, the aged or weak, the anemic and emaciated patients that we use the hot packs. In many cases of senile weakness, when the indications are for mild tonic and sedative effects, the hot pack may be beneficial, as well as in psychoses associated with acute nephritis, in cases of confusion as well as in active delirious states, as delirium tremens. In any of these cases, where the reactive capacity is weak, the hot pack may be used, but great care must be taken to establish the reaction.

INDIVIDUALIZATION.

Individualization is the primary factor in all water treatment. If that is taken into consideration, the advantages resulting from hydrotherapy are so eminent that they outweigh all incidental unpleasantness. In prescribing hydrotherapy it is indispensable to specify the procedures to be followed in regard to temperature, duration, and pressure. It should always be kept in mind that each form of hydropathy is a therapeutic measure for a purpose, and each has its definite reaction on the tissues, so we should use the same precautions and precision in administering it that we use in the most delicate medicinal agent. In prescribing a drug we state the exact dosage, the time, and the frequency, and this same plan should be adopted in prescribing hydrotherapy. The object of the prescription is to secure the greatest degree of stimulation, and we must, therefore, proportion temperature and duration and force of the bath to the patient's strength, our aim being always to secure a continuous vigor as long as possible. The patient should leave the bath at the climax of exhilaration and stimulation; therefore, before any hydrotherapy is prescribed a thorough physical examination should be made and a knowledge of the clinical history of the patient should be secured, so that the physician will have an exact knowledge of any deviation from the normal in the patient's organs and their functions in addition to his knowledge of the physiologic effects of the application and familiarity with the technic of operation of the appliances. It should always be borne in mind that all patients should first be treated with mild procedures, and the duration, temperature, and force increased or diminished as indicated when the patient becomes able to undergo the severer treatments.

From the fact mentioned above that all patients are expected to take the treatment from the time of their reception in the hospital, we have not met with the unfavorable comments concerning the treatments on the part of patients noted by some physicians. In fact, the baths are, as a rule, so favorably received by our patients that it is

impossible for us to meet the demands of those who return for treatment after they have been discharged. We have so many requests of this nature that we are compelled to limit the number of those returning to a very few exceptional cases. Only patients suffering from the periodic psychoses are granted this privilege, as all of our departments are worked daily to their fullest capacity. Among those who come back for treatment the writer has in mind two who suffer from manic-depressive excitements, and who have returned for years during their lucid intervals for cold packs when they felt the need of them. One of them has been in this hospital on seven and the other on twelve different commitments. Both of these women are privileged to return at any time they feel the need of water treatment. They are given cold packs forty-five to sixty minutes, followed by shower and spray at 110° F. for two minutes, and 30 to 35 pounds pressure and 70° F. for ten seconds. In the intervals between attacks these patients will appear for several weeks at a time and then discontinue of their own volition. The onset of their excitement is always preceded by the return of these patients for at least a week or ten days. Both women are of a fairly intelligent type, and they are firmly convinced that they have interrupted or delayed attacks by regularly taking the baths. Those women never object to the packs when they are in the hospital under treatment, but always express approval and relief from them.

The personal experience of patients in regard to hydrotherapy is interestingly described in a paper on Auto-Psychology of Manic-Depressive Psychosis by Reid and which is related as follows: "One of our patients, an intelligent graduate nurse, who was at one time assistant superintendent in one of the local city hospitals, and suffering from an unparalleled case of excitement of a manic-depressive type, recounted her experiences on her recovery as follows: 'Hydrotherapy worked wonders. What I enjoyed most was the shower and spray; it was invigorating and refreshing, and seemed to give me a new lease on life. The packs I disliked at first; the restraint of the blankets around me was maddening; it seemed like a dare, and on several occasions I wriggled myself loose and escaped. After I became accustomed to them, however, they were soothing, and I frequently slept while being treated in this manner. The continuous bath was restful and quieting. My circulation was poor, and I suffered from cold even in the warmest weather. The continuous bath appeared to restore the circulation, and the warmth was grateful and soothing. The sheet thrown over me in the tub was irritating and worried me constantly; I wanted to be free to splash around as I pleased.' "

To quote further from the same article: "In one of our wards at the present time is a woman who for many years has been treated for recurrent attacks of mania. For certain reasons it is necessary to keep her in a chronic ward at some distance from the hydrotherapy room. When her excitement becomes so intense that it is impossible to bring her to the hydrotherapy room for treatment, she asks permission to sit under the shower bath for two hours daily. Notwithstanding the fact that her excitement and confusion become so great as to render her almost incapable of performing a rational act or uttering a coherent sentence, she makes her way to the bath room and takes her treatment with great regularity. A retired army major who has recently recovered from an attack of mania told me that he had tried all possible combinations of the water treatment, and had worked out for himself quite an elaborate programme, which he found of great benefit in lessening his excitement. This consisted in taking the hot box for fifteen minutes, cold pack for one hour, hot needle bath, followed by cold shower and Scotch douche. He also found that sleep could be induced during his periods of greatest excitement by the use of a continuous bath at 99° F. for one hour."

DISCUSSION OF CRITICISMS.

The theory has been advanced that the good results in hydrotherapy are due solely to the suggestive elements involved. Of course, in the hydrotherapeutic cure, as in every other therapy, suggestion plays a part, but the writer does not agree that suggestion is the only deciding factor. As a proof to the contrary, it may be stated that it is not at all a matter of indifference what hydrotherapeutic method is used in the treatment of the insane. One may even injure the patient instead of benefiting him by the improper use of hydrotherapy, which would scarcely be the case if it were indifferent in what form the water is applied. And, too, we are now in a position to understand physiologic and therapeutic effects of water, so that we are able to explain to the patient the manner in which the effects are produced in so far as it is possible to explain effects in functional affections, and in many of the cases this explanation has a beneficial result. The patient feels that something is being done for her, and the fact that all patients expect and receive some form of hydrotherapy as soon as they enter the hospital inclines them to regard it as curative, and, if we accomplish our aim in restoring the patient to health, is it not the same, whether the restoration is in part brought about by sugges-

tion? But by hydropathic treatment we are able, in addition, to produce a series of somatic improvements.

The writer may guard against the objection which she has heard occasionally advanced by members of the medical profession that a pack is nothing more than a modernized straight jacket. This is not so, as the straight jacket is merely a coercive measure and has no sedative effect or therapeutic value whatever, and the packs are never used as a coercive proceeding; they have a permanent calming influence, and they are felt by the most excitable cases to be sedative and to have a curative effect besides. The patients are never packed and placed in isolation, but are where they can be seen by all the other patients, and many of them prefer the packs to any other treatment. The pack is even subjectively found to be pleasant. The writer can confirm this from personal trial.

When all is said, however, hydrotherapy is not advanced as a specific remedy, but is a method of treatment which aids in sustaining the failing functions and in preventing vital complications in mental diseases. It promotes nutrition and tissue change, the main therapeutic aim in all disease. Yet these good results can be obtained only in combination with other curative factors, such as diet, fresh air, regular habits of life, etc.

The continuance and permanence of the present movement will depend partly on its intrinsic value as verified by careful observers, but perhaps quite as much on the accuracy with which it is prescribed and employed by those who use it. Each one must require for himself a knowledge of the proper use of water, which must include its physiologic and therapeutic action, and without that he employs it empirically, making no particular selection for the patient or adaptation of the procedure employed to the individual. An attempt should be made to make those combinations of the various forms of baths given which would be most beneficial for the individual patient.

To remove the prejudice which exists in the minds today of a large percentage of the medical profession and to prepare the medical student of the future to utilize one of the most important medicinal remedies which is available in the humblest home as well as in the mansion of the rich, we must establish classes of hydrotherapy in our medical colleges and the study of hydrotherapy must be made obligatory.

CONCLUSIONS.

In conclusion, the results of psychiatric hydrotherapy may be summed up as follows:

First, the more careful clinical study of our patients is made possible by the constant vigilance required in the water treatment, and with these careful observations the intervening variations in the course of the psychoses do not pass unnoticed, the varied symptoms being given attention from their onset.

Second, without a doubt the painful symptoms of the acute stages are reduced and many complications are avoided; notably the period of excitement is shortened and its intensity diminished, and in many cases entirely suppressed.

Third, isolation is obviated, destruction of clothing and furniture is avoided, and the use of hypnotics is dispensed with; traumatism, so frequent in such cases of excitement, is prevented.

Fourth, the number of cases which pass from the acute state to the chronic is diminished, and the number remaining in the hospital is lessened and the number released is increased.

Fifth, the general somatic condition of the patient is benefited, they all gain in weight, and anemia is overcome.

Sixth, desocializing and demoralizing effects are diminished; there is greater quietness and better discipline in the hospital where the baths are employed, and the contagion of excitements is obviated.

Infections in Books and Magazines.

Stationary receptacles have been placed at the railway stations in New Orleans in which books and magazines may be deposited for the benefit of patients in the Charity Hospital. The New Orleans folks are delighted that a way has been found by which old magazines may be made to serve a good purpose.

Of course this is no new plan. It is being carried out in a number of places, and has been discarded in many more because of the ease by which communicable diseases may be brought to sick people, already low in physical resistance and ready to pick up any infection that happens to come into the neighborhood.

It is becoming the custom of railway corporations to operate their hospitals through boards of trustees made up of representatives of the management and of the various services of employees. The latest road to develop this method of operation is the Missouri, Kansas, and Texas. Two hospital corporations have been formed—one for Missouri and one for Texas. The two boards have seven trustees composed as follows: general manager, general counsel, general superintendent, and one employee from the trainmen, engineers, yardmen, officemen, stationmen, and one from the maintenance-of-way service. The hospital fund has a surplus of $100,000, which will be divided between the two hospitals, one of which will be located at Sedalia, Mo., and the other at some Texas point to be chosen.

Dr. Wayne Smith, for the past two years superintendent of the St. Louis City Hospital, has resigned to become general manager of the Harper Hospital, Detroit. Mr. F. E. Moulder, for the past ten years superintendent, has been compelled to resign on account of illness. Mr. Moulder has bought a farm and will live the simple life.

THE PLACE OF SOCIAL SERVICE IN A MEDICAL INSTITUTION.[1]

Prevention of Sickness by Social Service Is Better Than Cure of Disease—Is Good Business as Well as Good Philanthropy.

By A. R. WARNER, M. D.

ASSISTANT SUPERINTENDENT LAKESIDE HOSPITAL, CLEVELAND.

THE work which we now call "social service work" in a medical institution is old, in reality as old as our medical charities—it is the way of working the larger field that is new. Last year at Detroit Dr. Goldwater told us about the records of organized social work for the patients in the Paris hospitals dating back to the sixteenth century and of other work almost as old. American hospitals located in larger cities without at least a committee of women to visit the sick and care for the wants that were not medical have been few, indeed, since this country has had cities, but the rapid growth in the population, with the increasing tendency toward congestion into larger cities, the changed economic conditions, and the problem arising from greater immigration made the old way to help inadequate, inefficient. The voluntary services of a few ladies, however sincere and energetic, could neither meet the needs found nor properly survey the wants of the polyglot army seeking medical charity. A new way to work became a necessity.

This new and better way, first organized in this city, is the subject of this paper. It came from the vision and the appeal of one physician, now honored throughout this land as the instigator and the founder of a nation-wide movement which has made society kinder to the unfortunates and the world better. This new social service department, as it was called—this stronger, more efficient visiting and relief committee—was affiliated with the Massachusetts General Hospital. The arguments and pleas of Dr. Cabot have, however, carried the conviction generally that the responsibility to look for the need of more than medicine and to act on all the findings rests directly on any institution undertaking the care of a patient. The more recent social service departments have, therefore, been established by the institutions and supported directly or indirectly from their resources.

The place of a social service department in a medical institution is where it can best meet this direct responsibility and where it can best perform its investigating and relief functions. In a hospital or dispensary, as generally organized today under a superintendent representing a board of trustees, and acting as the established common point for the correlation of the varied activities and functions, the best place for the social service department seems to be squarely by the side of the other departments in the hospital organization. Here only can direct responsibility for this work be properly assumed, here only can the work be done in absolute harmony with all the rest of the institution, and here only can fitting recognition be given a work that has become a profession. It is as truly hospital work as any, and is sufficiently different from any other work to make a separate department advisable. At the head of this social service department there should be an expert and professional social worker, the best the institution can get. The titles and terms of service are immaterial, but it must be a person capable of directing the social work as the nursing head, or the chief engineer, or the chief of a staff directs the department. The organization of the department under this directing head is beyond the scope of this paper, but, if there be the proper relationship between a competent department head and the superintendent, the department will soon have the personnel and the equipment to keep its work on a level with the general work of the institution.

The relation of the social service department to the other departments should be that of mutual helpfulness. The value of social work to medical work, as well as the value of medical work to social work, is now beyond question. The hospital has definitely committed itself to assist its accepted wards in many ways instead of one; it matters not the station of the worker, for these wards and their welfare is the common end of all.

In the relation of the social service department to the superintendent and to the hospital there should be the usual institutional harmony and a recognition of the superintendent as the representative of the trustees and of the institution, itself a charity, which in turn represents a specialization in society's efforts to better itself. The basic aim and purpose of all departments of the hospital is to further this same effort, each in its own way. Absolute loyalty to the interests of the hospital are as essential in this department as in any position in the institution.

[1]Paper read before the American Hospital Association at Boston, August, 1913.

All of the work of the hospital primarily social properly comes to this department. In addition to the recognized field for the betterment of the patients and their families, there are the social investigations to determine how much, if any, a doubtful applicant can and should pay for the services to be given him. If the customs and conscience of all communities in dealing with hospitals are the same as in Cleveland, the cash return to the hospital from the abuse prevented will pay to any institution doubly the cost of this home investigating. There is, besides, no small degree of philanthropy and social betterment accomplished by preventing a man from first securing unwise charity, even though this be accompanied with some unpleasantness. There is also the social work for the hospital employees to be done. Commercial plants employing no more people find it profitable to provide a social worker to help their employees when unfortunate. Therefore, what reason can there be in not doing this work when the institution already has the department and workers at hand. In general, the social service department should assume all the social problems of the hospital as the engineers assume the mechanical or the staff the medical, and should cheerfully permit its results to be blended with the work of the others to increase the institution's usefulness to society.

The relation of the superintendent to the social service department is a proper point to discuss here. In the text-book, "The Modern Hospital," by Hornsby and Schmidt, the first paragraph of the chapter on the superintendent is as follows: "The superintendent of the hospital is the executive officer of the board of directors—the general manager of the corporation. Standards of hospital administration have been practically revolutionized within the past five or ten years, and the standards of hospital managers have changed within the same time. The man or woman who was a competent hospital director a few years ago may be to-day so far behind the times that the whole institution is out of date." On the general manager, as Dr. Hornsby calls him, depends much of the effectiveness of the work, as well as the working efficiency of any corporation. The position is indeed a trust. Hospitals are medical institutions organized to do for the masses what the physician does for his individual patient, and the vision of the progressive hospital has followed the leaders of the profession from therapy to prophylaxis. But medical prophylaxis for the mass and for the community is sociology—applied, active, practical. In other words, the most marked recent changes in the purpose and the work of hospitals are, first, the development of more cooperation with other organizations to develop greater sociologic efficiency, and, second, a greater effort to render real service to its wards as men and women, who lived some way before they were admitted and who must live somehow after their discharge, and to do this without losing one iota of scientific progressiveness or teaching proficiency. The successful manager of such an institution must have an interest in and knowledge of public health and welfare, of social and economic conditions, and must cherish a determination that society shall gain, not lose, because a charitable institution is intrusted to his management. The results of good business are dollars; scientific research, facts; and wise charity, social betterments. There should be the element of charity in every hospital, and the manager must produce the results. The superintendent should, therefore, be a leader, a supporter, and a fellow-worker in social service. We have heard hospital superintendents characterized as good housekeepers, good innkeepers, good accountants, good specialists in some branch of medicine. It is high time we heard, occasionally at least, of hospital superintendents that are good social workers, good sociologists. To the business, mechanical, and medical qualifications required in the hospital manager to-day, to-morrow will add one more and that will be sociologic, and then the relation of the hospital superintendent to the social department will be the same as to the business, to the mechanical, or to the medical departments.

The cost of social service, as of any charity, is complicated, for the results are not all measurable in dollars, and it is not possible to reduce social results to a common basis even for comparison. It is also wrong to look only at the gross cost, for one dollar counts as another in the expense column, though the one be wasted and the other enable a man to meet misfortune and survive with self-respect and the spirit of manhood unbroken. Again, a dollar saved is a dollar earned. If the social service department saves the hospital a dollar, why should it not be credited to the department, figuratively at least, to reduce the effect of the "extra expense of social service," as it is sometimes called? The social work for the hospital employees and the social investigation of applicants for admission always bring a profit to the hospital—the one in greater working efficiency and the other in cash. There is another kind of saving, however, that counts for more than these. The best story at hand to illustrate this is, by chance, local. It is best because the data was worked out best, and not because there is anything unusual or uncommon in the facts. As a story to illustrate the weakness of dispensary

treatment, it would be commonplace indeed. Some of you, at least, have heard Miss Cannon's story about the family with scabies. This family consisted of father, mother, and nine children. The long records of every member, all for the same trouble, were noted and investigated. Miss Cannon found that they had come to the dispensary three years before. The total number of dispensary visits were one hundred and ten, which, figured at the per-capita cost, amounted to $52.65; free prescriptions were given them costing $23.70; and they were treated in the hospital wards seventy-one days, costing $178.92, making a total of $255.27. Over three years of treatment, costing this amount of money, had failed. After a few visits of the social worker to this home, costing but a few dollars, the family had learned enough hygiene to bring a prompt and permanent cure under the same medication. Were these few dollars an extra expense, or did it save the cost of more unsuccessful dispensary treatment and become an investment that returned a profit of some hundreds percent in cash besides the service rendered the family. I have seen social service work for dispensary patients unquestionably prevent a second break in heart compensation. If the break had come, this patient would have been returned promptly to the ward. Is the social service in such cases an extra expense, or is it a way to save the cost of some weeks of hospital care at the usual figure? And above the dollars there is a higher plane—it is better charity to keep a man out of a hospital bed than to care for him after he is in one. There is something wrong with the social service department that cannot add to the efficiency of any institution sufficiently to enable it to accomplish the same amount of good in the community at an equal or a decreased cost. Added to a given institution, the department will widen its influence and strengthen its work far beyond the ratio of the extra expense.

The gross cost of a social service department is about $1,200 a year for each worker, including incidental expenses, a room or desk room, and a little fund for loan and emergency relief, which can be raised easier than money for any other use in the hospital. Then, why should any hospital be without such a department?

I am assured that the New York City Committee on Hospital Inquiry, a lay committee, seeking only to promote economy and efficiency in the care of the municipal poor, will report that social service in the cities' hospitals and dispensaries is a "necessity because it increases the effectiveness of the medical relief," because "it safeguards the community and promotes social efficiency," and that it "is therefore a legitimate part of the municipal expenditure."

Not long since the presence of x-ray equipment marked hospitals as good, and then the absence of such equipment branded them as bad. The history of hospital social service will soon have been the same.

FILING OF X-RAY PLATES.

Convenient Method of Arranging Fluoroscopic and Plate Data for Permanent Record.

By JAMES T. CASE, M. D.

RÖNTGENOLOGIST TO THE BATTLE CREEK SANITARIUM, BATTLE CREEK, MICH., AND TO ST. LUKE'S HOSPITAL, CHICAGO; LECTURER IN RÖNTGENOLOGY, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

EVERY well-ordered medical institution is nowadays equipped with a more or less adequate röntgen examining department. While as yet, in this country at least, the value of the fluorescent screen method of examination is little appreciated, the röntgenographic or "plate" method has reached such refinements that it may be considered almost perfect. It is safe to say that American röntgenography is fully abreast of the European standards, but in röntgenoscopy we, as a nation, are still far in the rear. Here and there are a few American röntgenologists who have appreciated the fluoroscopic method, and have perfected safe and sane instruments which may be used without fear of serious injury to the operator.

Even these men, however, have not adopted fluoroscopy to the exclusion of röntgenography, but still consider the plate evidence of value under certain circumstances and make a few röntgenograms in connection with every case fluoroscoped as a matter of confirmation or permanent record of interesting conditions.

Since plates will be made and are made for record more often than for diagnosis, at least in the study of the thorax and abdomen, an adequate system of filing must be installed in connection with every x-ray examining department. The writer's connection with an institution handling a large number of patients daily has afforded abundant opportunity to work out a system possessed of such elasticity that it may be used for

an institution of any size, great or small. A description of this system of filing, now used both at the Battle Creek (Michigan) Sanitarium and at St. Luke's Hospital (Chicago), may be profitable in this connection.

A supply of paper slips, preferably made up in pads, are carefully numbered consecutively with a numbering machine. This pad of numbered slips is kept at hand—best near the switchboard from which the x-ray exposures are made, so that the operator may at once make a written record of the exposure.

The exposed plate and the slip containing the number and the proper notation are carried to the developing room, and the plate at once removed from its holder and marked with the number and the name of the patient, or the slip is fastened to the plateholder, the marking of the plate being left until such time as it is removed from its container.

The marking is done in one corner of the plate with an indelible pencil. The plate may be developed at once or left in a light-proof container until a convenient time. The number slip containing the memoranda is placed upon a pick until the day's work is completed.

At a convenient hour the slips of the day are copied into a journal with enough ruled columns to tabulate the following data: date, plate number, name of patient, part, size and position of the plate, whether with or without reinforcing screen, the name of the physician or service, remarks, and lastly the date on which reported. The column of numbers may be printed in with a numbering machine—some thousands ahead if desirable. The slips, after being copied into the book, may be destroyed. A journal of the sort just described serves many useful purposes for future reference.

(EXAMINATION)

BATTLE CREEK SANITARIUM—Röntgen Ray Department.
J. T. CASE, M. D., Director.

Name..... *Address*.....

Date..... *Age*..... *Referred by Dr*..... *No.* .....

Fig. 1. Front side of index card. Size of card, 6x4 inches.

As each patient is received, the office nurse makes out an index record card (Figs. 1, 2), recording the name, date, age of patient, service or attending physician, and the aim of the examination; for instance, x-ray study of the chest for possible tuberculosis; x-ray study of the stomach for suspected ulcer; left hip for possible fracture; right leg for extent of injury, etc. It is helpful to the röntgenologist to know in which quarter trouble is suspected, and a brief statement as above suggested often saves much time and labor, to say nothing of expense to the institution.

191....	PART	No.	SIZE

.....*Examiner.*

Fig. 2. Reverse side of index card.

Fig. 3. Plate assembling cabinet. Each pigeon-hole is labeled for one or several patients, according to circumstances, and all plates are temporarily filed in these compartments as fast as they are labeled, pending completion of the examination, when the written report is made. The drawers at the left (below) serve for filing of tracings. The card files above contain the permanent record cards. The plates on the table in the right-hand pile have been reported on, and await filing in the permanent files. The plates in the center are being labeled and enveloped before going into the assemblage compartments. Those on the left are being kept out for special purposes.

On this index record card should be written also the number, size, and part röntgenographed of each plate made. This record may be made at the conclusion of the examination, during rela-

tively slack time, the journal serving for immediate reference in case of need.

The plates having been developed and dried, they are now brought to the desk for assemblage. The writer has constructed a special desk for this purpose, as illustrated in Fig. 3. The plates are brought from the dark room and on this desk are labeled, placed in envelopes, marked with proper name and number, and temporarily placed in one of the compartments under the table until such time as the examination is completed and the written report can be made.

It is very convenient to have these compartments for temporary assemblage of plates. For instance, when Dr. J. comes into the office and says, "I know you are not yet through with the examination of Mrs. R., but the case is urgent and I would like to know something about her, whatever you can tell me," it is easy to go at once to the compartment set apart for Mrs. R.'s records and glance over whatever plates are completed at the moment. All tracings, memoranda, and information of whatever sort regarding each case should be placed at once in the "pigeon-hole" set aside for that patient.

The daily hour set apart for reporting having arrived, the examiner and his stenographer or clerk sit by a properly illuminated plate-study box or table (Fig. 4), and the plates of each completed

Fig. 4. A corner of the plate filing and study room, showing the stereoscope, the table with glass top for the study of smaller plates, the making of tracings, and the study of lantern slides. On the right-hand side is the plate assembling cabinet shown in Fig. 3.

case are carefully studied in connection with the case history and the memoranda which may have been dictated from time to time during the various fluoroscopic observations, provided the case has been one permitting fluoroscopic study. The report is then dictated, the tracings filed in their proper place for permanent keeping, and the plates are sorted out in piles of the same size, to be filed away in the permanent plate file. The report, preferably typewritten, made in duplicate, is sent out, one copy to be placed on the patient's record for the attending physician, the other to be filed in the x-ray office for future reference.

Fig. 5. A convenient cabinet for the filing of late plates. The smaller and less recent ones are filed higher up, the more recent plates on the lower shelves. The center of the cabinet is utilized for special study purposes, a few plates of striking interest being placed on permanent exhibition.

Permanent plate files are not necessarily finished pieces of furniture. Perhaps the more recent plates may be kept in a nicely finished cupboard, such as is shown in Fig. 5, but they will sooner or later be transferred to less valuable and more roomy quarters, where they are given a place in the shelves set apart for each individual size—14x17-inch plates in one shelf, 11x14-inch plates in another, 10x12-inch plates in another, and 8x10-inch plates in still another. The plates have all been numbered consecutively as they have been exposed, and may within a series of five numbers include five sizes of plates; hence it will be impracticable to file all the numbers consecutively, but each size should be filed in numerical order by itself. The 8x10 shelf may contain numbers 5071, 5074, 5077, 5078, 5083, etc. The 10x12 shelf may contain 5070, 5073, 5079, 5080, etc., and so on. By reference to the original card, then, for the plate number and size, it is easy to go to the file of that size and pick out the number.

It is the writer's custom to construct the plate files with shelves of two sizes. The lower tiers of shelves are 15 inches in height and 18 inches deep, and thus serve for 14x17- or 11x14-inch plates, as the need may develop. The upper tiers of shelving are 11 inches in height, and serve, as need arises, for either 8x10- or 10x12-inch plates.

The sticker labels for marking the plates should be of about the size and shape of the sample printed herewith:

THE BATTLE CREEK SANITARIUM.

J. T. CASE, M. D., RÖNTGENOLOGIST.

Plate No..... Date.....

Name.....

In addition to the data called for on the label, it is well to add "right" or "left," or, in the case of bismuth meal examinations, the number of hours since the meal was eaten.

Envelopes for permanent filing need not be expensive. The light-proof envelopes often sold along with the plates are too expensive for filing, and may be used over and over again in making exposures. Any cheap envelope a fourth of an inch larger than the size of the plate intended for it serves well enough for filing purposes. When two or more plates of the same size in the same case are consecutively numbered, they may be placed in the same envelope, but a sheet of cheap paper should be inserted between the film surfaces of the plates to prevent scratching. Stereoscopic plates should always be filed in pairs. The paper for insertion between plates can be bought from any printing house at a nominal price, cut in proper sizes from spoiled stock.

Some recommend the use of lead numbers or "x-ray ink" markings on the plates, but in the writer's experience they are too cumbersome and the method is no less likely to permit error than the plan above described.

When making bilateral röntgenograms—as, for instance, both kidneys on one plate—a marker of some sort is desirable to identify the right or left side, but in any positive case a duplicate plate should be made for confirmation. A marker is especially desirable when films are used instead of glass plates.

A cross-record card is desirable in most medical institutions, not only for statistical and study purposes, but also as an aid in looking up special cases when the name of the patient may have been forgotten. A cross-record of this sort should be kept, not of the name of the patient, but of the part röntgenographed or according to the diagnosis, or preferably both. Any clerk may do this cross-record work from the data already in hand. At any time, then, it will be possible to ascertain quickly how many bismuth meal examinations have been made from one date to another date, or how many fractures of the femoral neck, or how many foreign bodies in the eye, etc. It may appear that the task of correctly numbering, filing, and indexing x-ray plates, to be properly done, requires considerable detail work, but it is essential for practical and useful record.

As the profession becomes more and more accustomed to the daily routine use of this wonderfully helpful diagnostic agent, and as the men who specialize in its use through increasing experience and accuracy gain more the confidence of the referring physicians, a change will be wrought in the attitude maintained toward x-ray work. The x-ray laboratory will be no longer considered a photographic gallery, presided over by a photographer, but rather a medical examining room where a physician skilled in the use of the x-ray secures added and special information to aid in the war against disease. The evidence thus afforded must be collated and checked up by (as well as serve to check up) the findings secured by other clinical means. An "x-ray" diagnosis will be a thing of the past. A "diagnosis" is the desideratum, and, to arrive at a correct diagnosis, we should take advantage of every available means, especially this new diagnostic agent of such promise. "Plates" will then be made less and less frequently. The fluoroscopic observation of the trained eye will bear more weight in contributing to the diagnosis. Less dependence will be placed on the photographic record of static conditions and more on written record made at the time of observation under most favorable circumstances for visualized palpation and manipulation impossible by any other method.

Fewer plates will be demanded. Less time will be consumed in the purely mechanical and laborious side of röntgenology, and more time left for the development of finer points of diagnosis.

Another triumph of American skill in hygiene and sanitation in tropical countries is chronicled in the recently published year book of the Philippine Bureau of Health. Director of Health Victor G. Heiser, who is also past assistant surgeon of the Public Health and Marine Hospital Service, sums up the situation in the Islands as follows: "On account of the state of the public health at the close of the year, and the satisfactory conditions under which the new year is begun, it is believed to be safe to state that we are on the threshold of the time when the expectancy of life in the Philippines will compare favorably with that in other parts of the world, and that it will be safe for commercial enterprise to make its calculations for the future without fear that disastrous epidemics with their attendant quarantine and other restrictions must be reckoned with."

HOW THE SMALL HOSPITALS MAY BE MADE SELF-SUPPORTING.

Business Efficiency Quite as Necessary as in Other Business Offices—Charity Hospitals Should Not Take Pay Patients.

By G. W. OLSON,

SUPERINTENDENT OF THE SWEDISH HOSPITAL, MINNEAPOLIS.

IT is less than two years since the writer gave up a promising business career to take the superintendency of a hospital of which he had been trustee for a number of years. Some of his business friends merely smiled contemptuously; others expressed their scorn in rather strong language. They were unanimous in declaring their pity for a man who had so far lost his sense of self-preservation as to give up a vocation in which he could always feel assured of bread and butter for his family and himself "without the leave of any man," to take up a line of work which in the minds of many bright business men today is considered commercially unsound and is looked upon at best as a tolerable form of mendicancy.

The hospital business—not being a professional man, I am prone to look upon it as a business, and my subject further leads me to take this view of it—is not one that attracts capital, commands credit, or receives recognition in the commercial circles of the community. Why this is so, I cannot understand. It seems to me that the business of housing and providing for the wants of the sick is just as legitimate a business as that of housing and providing for the wants of the well, and should be regarded just as much a service to be paid for, if not more so. And yet it is a fact that, while a good hotel is looked upon as a good business investment for the owner, and its patrons cheerfully pay for its service a price calculated on a profit-making basis, a hospital, no matter how good, is classed as a poor business proposition, and its service, if paid for at all, is paid for grudgingly at a low rate and valued at less.

There must be some reason for this. Perhaps it is that people have been taught for ages that sickness is a form of punishment for sin; and people cling stubbornly to the notion that punishment should be inflicted at least without cash outlay to the recipient. No man pays a weekly rate in the house of correction, so why should he pay in the hospital? It must be largely on this theory that the governments of Europe and the municipalities of our own country are building gigantic establishments for the indiscriminate free care of the sick. People are learning to have little or no care about the days of sickness, which are almost certain to come in the lives of all humans. They are allowed to gain the impression that they may spend their money indiscriminately in the "pursuit of happiness," which in the modern interpretation means pleasures and incidentally impaired health and disease; they "should worry"—the state or municipality will take care of them free of charge when the inevitable day of illness arrives. Of course, this grace does not extend to the industrious taxpayer, who builds and maintains these free institutions. When he is sick, he must go to the voluntary hospital, where a charge is made for the service. Reflecting on this, it is not to be wondered at if he finds it galling when he is asked to pay for service which the thoughtless, the reckless, the thriftless, as well as also the luckless, have thrust upon them free of charge.

In seeking the reasons for the slight regard in which hospitals are held as business enterprises among business men and the public in general, is it not probable that one of them is the fact that so few hospitals are really self-supporting? Self-support is an important consideration in winning both self-respect and the respect of others.

Whether it is desirable or necessary that a hospital should be self-supporting is a question quite apart from my subject, and I shall not attempt to discuss it. Certain it is that in the case of the hospital founded mainly for scientific research and educational work it is impossible, no matter how desirable; and in the case of the state or municipal hospital and the heavily endowed charity hospital it is not necessary. But I take it for granted that to the great majority of the hospitals represented at this session for the smaller hospitals the question of sustenance is a vital one, and a condition of self-support both desirable and necessary. How, then, can this desirable condition be attained?

The wise doctor, who earnestly wishes to make his patient well, will first try to find out what made him unwell. So let us first try to learn *why* so many of the smaller hospitals are not self-supporting. I will name some of the causes as they appear to me:

1. The traditional unwillingness of the public,

[1]Read before the American Hospital Association at Boston, August 27, 1913.

already alluded to in the opening of this discourse, to pay for hospital service.

2. The severe and unfair competition of the hospitals maintained by public taxation and the charity hospitals maintained by private benevolence, which deliberately dispense service and supplies to pay patients at less than cost, and very often give free service to patients who can well afford to pay.

3. The doubtful good fortune, which befalls even many of the smaller hospitals, of being "born rich."

4. The vainglorious ambition which seizes so many hospital boards and building committees, like the young mother's fond ambitions for her first-born, to go far beyond their means in rearing and equipping their young progeny after the manner of the millionaires on yonder hill.

5. The altogether laudable and worthy aspirations of many small hospitals to achieve fame as philanthropic institutions.

6. Faulty organization, such as a too broad or too narrow charter or organic act, with unwise provisions as to board of managers, staff, authority and duties of the executive, etc.

7. Last, but not least, we have the failure of hospitals, individually and collectively, to give due attention to the development of the business side of hospital operation, particularly the *sources of revenue.*

Let us now briefly analyze the above causes and see what may be done to remove them or to remedy their effects.

1. The existing aversion to hospitals, and especially to the payment of hospital bills, is the result of inherent prejudice traceable to the days when hospitals and almshouses were inseparable. It is a condition which, fortunately, is fast disappearing as people are becoming better educated to the true function of the present-day hospital and the real value of its service. Our association can do much to further hasten the complete obliteration of this cause.

2. The second cause named—the abuses by the public of the charity hospitals—is one that concerns these institutions quite as much as it does us who represent the voluntary or semi-public hospitals. And it is a hopeful sign, which promises the early removal of this cause, that these hospitals are themselves taking up in earnest the matter of curbing the abuses to which they are being subjected. Let us hope that they will pursue their efforts to a successful conclusion. If they can then also be induced to adopt a scale of rates for their pay patients which will be commercially sound and just, we shall have little to complain of in the competition offered by these hospitals. Trustees of charity hospitals should wake up to the fact that it is a violation of the trust reposed in them—in fact, a misuse of trust funds—to dispense service and supplies at less than cost unless it be done for objects of charity. Taxpayers are waking up to face this question, and I think we may look for radical reforms soon in the methods of conducting the business of city and county hospitals, which at present are taking pay patients who can afford to pay all that the service costs, at rates which involve a mulcting of the public treasury in large amounts annually.

I cannot refrain from calling attention, in this connection, to an abuse which is practiced through the municipal hospitals in the large cities, and which is particularly injurious and unjust to the smaller hospitals. If you enter one of the large city hospitals and inquire into the matter, you will find that a very large percentage of its patients are there as a result of accidents of one kind or another. And if you inquire further into the history of individual cases, you will find that a great many of them are so-called liability cases —they have claims on somebody as a result of their injuries, and, if you probe deep enough, you are likely to find that their doctor is or will be paid by an insurance company or other corporation or individual for his services, and when the patient is out of the hospital he expects to recover, by suit or settlement, compensation for his injuries, sometimes in very large sums. Now, these cases are treated free by the hospital because the patient himself is often without visible means. The resulting saving of hospital expense to him invariably redounds to the advantage of the liability insurance company, which thus profits at the taxpayer's expense. My personal observations lead me to believe that this form of abuse of public hospitals is quite extensive. That it is grossly unjust to the smaller hospitals, who ought by every right to have this business at living rates, is apparent to everyone. The small hospitals located in cities where municipal hospitals are maintained should bestir themselves and vigilantly fight hospital abuses of all kinds, but this kind in particular. Let the taxpayer know what is being done with his money.

May we not hope that the hospitals maintained by public taxation will eventually go out of the pay-patient business altogether, and apply stringently the test of qualification to the charity patients admitted. Municipal hospitals are compulsory charity hospitals, and no one should be allowed to accept charity who is not in need of it. Otherwise sweet charity becomes a pauperizing factor in the community.

3. The third cause—that of being "born rich"

—is one that affects hospitals precisely as it does individuals. It is conducive to extravagance, looseness in business methods, and tends to produce a surfeit of eleemosynary effort that will make self-support in the leaner years which are likely to come doubly difficult.

4. Closely related to the foregoing, we find the fourth cause—the overreaching ambition of the builders. This is especially active where hospitals are started under the stress of great enthusiasm due either to joy over a sudden and unexpected bequest or a spasmodic outburst of local civic pride. The evil effects brought on by this not uncommon cause is evidenced in the many institutions which we find having a magnificent building and costly equipment far in excess of the needs of the community served, but with little or no commercial credit, and with both hands outstretched in solicitation of aid from kind-hearted people, that the institution may not be forced to close its doors. Many builders of small hospitals today are altogether too prone to pattern after the big, powerful, heavily endowed or publicly erected hospitals. It is evident from the experiences of many that, in order to insure self-support—or, in other words, to make the business pay—some sane proportion must exist between the capital put into the construction and equipment of the hospital and its earning capacity or number and class of beds. I believe that a good hospital can be built and equipped at a cost of from $1,000 to $1,500 per bed, and I believe, further, that just as good service can be given the patient in such a hospital as in some of those which are now being built with an expenditure of from $3,000 to $4,000 per bed.

5. The fifth cause named in the list of difficulties which beset the smaller hospitals is one which I fear I cannot discuss without revealing some of my own weaknesses. And if in discussing it frankly, as I must, I hold up a mirror in which we will see ourselves, some of us as we are and others perhaps distorted, I trust you will not take me too severely to account for the rudeness.

Most of us hospital executives are naturally tender-hearted and sympathetic. It is these qualities that have led us into the work; and it is these qualities, and not much else, which keep us in the work. We are natural-born philanthropists, most of us without the means, however, to exercise our natural bent, except in the matter of our time and our energies. We are generous to a fault; so generous that we will often give away even that which is not ours.

The fact of the matter is that most of us superintendents of small hospitals are a lot of "mollycoddles"—pardon the term—when it comes to differentiating between business and charity. So many of us have our wishbone located where our backbone ought to be. Maybe that is why we remain superintendents of small hospitals. We can look complacently while the doctor comes into our hospital and in an hour or less performs a service for which he receives as much as most of us receive for thirty days of hard work during twelve to eighteen hours of each day. And then we can listen to the complaints of the patient from whom the doctor extracted that fee of the terrible expense of a siege in the hospital, and, in our anxiety to please and our overwhelming pity for the sick and suffering, we refigure our bill down to the lowest possible point, leave out several items which we know the patient has received—and which we also know cost us money—and then discount the whole 10 to 25 percent; or perhaps we must wait for our money until the account is quite old, and then we gladly accept 50 percent in settlement. In the meantime our bills go right on piling up, and we tremble at the thought of what the surgeon, who can come into our hospital and make $500 in one morning, will say when he finds the supply of gauze curtailed because our last order is held up pending a payment on account.

Is this not the experience of many, and what lesson does it teach us? Sisters and brothers in a noble profession, we must be *just before we are gene ·u·;* just to our little institution, which is entitled to receive every dollar it earns; just to its sponsors, who should not be called on to contribute to its running expenses; just to its patients, who should not have a portion of charity thrust on them and still be allowed to believe that they have paid for everything received; just to our creditors; and, finally, just to ourselves and our subordinates in the matter of wages, working hours, and living accommodations.

6. The sixth reason assigned for the failure of hospitals to provide their own sustenance has to do with their organization and provisions for government. This is a factor of greater economic importance than is generally recognized. A hospital founded through the benefaction of one man or woman, with a small and exclusive self-perpetuating board of managers, can hardly hope to reach the point where its receipts from service and supplies sold will equal its expenditures. Any hospital founded on large benefactions and showered with gifts in the days of its beginning will find it exceedingly difficult to establish itself on a business basis. Too much will be expected and demanded from such a hospital in the way of free service, and the duty to render such service will always weigh heavily on the management of the

hospital, making it difficult to establish and enforce living rates. The community served by such a hospital, however, should be enlightened as to the fact that a money value must be placed on the free work, exactly the same as on the paid work, and that the most that can reasonably be expected from the institution in the way of free work is an amount equivalent to a commercial rate of interest on the capital represented by the hospital property, plus any moneys which may be derived from interest on endowments or from current donations. And the public should further understand that, in order to render such free service, the hospital must be allowed to collect for its paid service not only what that service actually costs, but a sufficient margin above that to meet the cost of the charity work.

A common type of hospital organization is the church hospital owned and governed by a church conference or synod. These hospitals are generally successful, if we may judge from the face of their financial reports. But, if we stop to analyze these reports, we will find in the case of many of them that the free work performed has not amounted to as much as the church collections and other gifts received, indicating that the paid work has been carried on at an actual loss and no interest whatever returned on the large capital placed in the hospital property. The writer has in mind one hospital of this type which possesses buildings and equipment costing over $200,000. The last annual statement of this hospital shows free work done to an amount approximately balancing the church collections and other gifts received for charity purposes. What has the $200,000 investment returned in this case? Certain it is that not many of the pay patients of this hospital—and it has a large number annually —will return thanks for the service which they received at less than cost, or congratulate themselves on their good fortune of having unknowingly been the objects of charity. Looking into the organization of this hospital, we find that it is governed by a board of sixty or more members elected by the church conference controlling it, and these members are scattered over a large section of country.

It is a common fault with church hospitals to have large and scattered boards, composed to a great extent of clergymen and laymen of very benevolent tendencies, whose influence is often used more to obtain for some friend and neighbor special favors and rates at the hospital than to help increase its revenues. It is better, however, to have the hospital governed by clergymen than by a coterie of doctors. No more hopeless situation can be pictured than a hospital, supposedly a general hospital, dominated by a clique of physicians, whether they constitute its board or its staff. Imagine a church or community hospital thus ruled, with its doors tightly closed against all doctors not in the sacred circle, and this same impregnable circle not assuming a particle of responsibility or the slightest care for the financial success or failure of the hospital. The great surgeon in the group goes south in winter and abroad in summer, and the great medicine man follows closely on his heels. Bright and industrious young doctors are thriving in your town, and they knock at your door for admission to their patients; but, no, the rules of your staff and the "ethics" of the institution must be observed; the cobwebs continue to grow in your doorways, and only the occasional calls of your patient creditors enliven your languid existence.

I am not prepared to prescribe the ideal form of organization. But I believe that the community hospital, born of a genuine community need, nurtured by a general community interest and supported by a loyal community patronage, when blessed with simple laws and wise management, comes very near being the ideal. To illustrate, let me tell you briefly the story of a remarkably successful hospital—the Swedish Hospital of Minneapolis, Minnesota. This hospital was started fifteen years ago in an old rented dwelling, furnished and equipped in the simplest manner to accommodate about 25 patients. Today this hospital occupies modern buildings, with a capacity of 125 beds, the net worth of its property above all indebtedness being in excess of $150,000. And this has been accomplished with less than $10,000 received in any other form than as payment for services rendered.

The organization of this hospital is exceedingly simple, and it is one that can be worked out successfully in any community. A few men—clergymen, doctors, and laymen—interested in founding a hospital, met and formed an association under the state laws governing corporations for benevolent purposes. It was provided in the charter that there should be no capital stock or shares; the corporation should consist of two classes of members —annual members paying $1 each year and having the right to vote for trustees or themselves become trustees, and life members paying $25 for the same privilege during their natural life and in addition being entitled to hospital care to the amount of $25 in case of need, without forfeiting any privilege of membership. By a later provision these life memberships have been made perpetual, so that a member may designate some person to succeed him on his death, subject to approval by the board of trustees, or, failing to make such

designation, the board may confer the vacant membership on any person whom they see fit. This insures absolutely the permanency of the membership, which at present numbers about 200. The hospital benefit conveyed by a life membership is, however, only available by the original holder personally, and on his death this liability on the hospital lapses. The constitution of the corporation provides for a board of trustees of twelve men, four of whom are elected each year at the annual meeting of the corporation and serve for three years. This board elects its own officers, meets regularly once a month, and has full authority to transact any and all business incident to the operation of the hospital. The board subdivides itself into committees, such as an executive committee, which is also the finance committee; a training school committee, which passes on all applications for admission to the training school; an auditing committee, which goes over the bills each month; a house committee, which makes periodical inspections of the hospital and dormitories; and a charity committee, which rules on all applications for free beds or aid from the hospital's charity fund. The board engages the superintendent, and clothes him with wide authority and corresponding responsibility in the conduct of the internal affairs of the hospital. All other employees are hired by him or on his recommendation, and he has full authority to dismiss any employee for cause which he deems sufficient. He makes all purchases necessary for the operation and maintenance of the hospital, and it is only when extensive improvements, building operations, or the purchase of real estate is concerned that the board assumes a part in the transaction. He is given full authority to use his own judgment and discretion in the admission of patients, in the permission of physicians not on the staff to introduce patients, in the application and enforcement of the rates and rules of the hospital, and in the collection of delinquent patients' accounts, or the settlement of any dispute arising in the ordinary course of business.

The staff of this hospital, consisting at the present time of twenty-eight active men, is appointed annually by the board. At the beginning of each year the list is gone over in executive session, and any staff member who has displayed disloyalty to the hospital or in any manner proven himself unworthy is dropped. It is needless to say that, under these conditions, staff men are as a rule very loyal. The board, through its superintendent, is absolutely the judge as to who may or may not treat patients in the hospital. Its doors are open to any reputable practitioner. Recently, however, it has been necessary, for lack of room, to confine admission to patients of staff members only. But, as soon as the needed additions can be built, the democratic character of the hospital will be restored, for its founders and sponsors believe firmly that the community is better served by an open hospital than by one conducted on the closed staff plan.

The Swedish Hospital form of organization is one that may be employed anywhere with better chances of success than any other plan of which I know. It permits everyone in the community who is at all interested in the work of building up a hospital to have a part in it, no matter what his social or financial station may be, so long as he is a person of good character. It is a mistake to think that only the rich can or ought to be interested in this work. The poor man has nothing but contempt for the enterprises, no matter how benevolent, which the rich man condescendingly establishes for him without his asking. Take the great mass of the people into your confidence, and, if your enterprise can be helped at all by public support, it will be a success. The religious interest need not be overlooked in the working out of this plan. Often it is the churches which take the initiative in a hospital campaign, and such was the case in the establishment of the Swedish Hospital. But there were people of several different denominations, as well as persons of no church affiliation. The provision was agreed upon that at least seven of the twelve men constituting the board of trustees must be members in good standing of some evangelical church of America, but not more than five may belong to the same denomination, insuring freedom from denominational control.

The Swedish Hospital plan of foundation for a hospital is conducive to self-support because it compels it. The campaign for members in the hospital corporation will, if successful, yield barely enough money to purchase the ground for a modest beginning. Funds for the erection of the building must be borrowed, and this requires the pledging of the individual credit of the trustees. The necessity for such credit compels the choice of responsible business men as trustees, men of a character that would insure success to any worthy enterprise.

7. But we have yet to consider the seventh, and most important, in our list of causes for the financial difficulties of the smaller hospitals. This is *the universal failure of hospitals to give due attention to the earning capacity or revenue sources of their business.*

The evolution of the hospital from the primitive "krankenhaus" of a century ago to the modern institution for the care of the sick is truly wonderful. Insofar as this progress has been made solely

with a view to the attainment of scientific results, or for the purpose of discharging most effectively organized society's obligation to its helpless wards, without the need of much thought as to the sources of revenue for its support, it has been perfect. But when those members of society who neither wished to submit themselves as subjects for study nor could qualify as paupers decided that they also wanted the advantages of hospital service, and in consequence hospital operation of necessity became more or less commercialized, the fleet steed of scientific progress was hitched with a horse of an exceedingly wary disposition. The economic problem at once assumed importance, and with many it became paramount. The American Hospital Association was organized and adopted "Economy in Hospital Management" as part of its slogan. The problem has been considered at every meeting of the association, I believe, and many are the valuable contributions which have been made toward its solution at these meetings. But I fear that our efforts in the past have been altogether too closely patterned after that parsimonious farmer who claimed to have succeeded in weaning his horse from the habit of eating, and would have trained him to get along without drink, too, if the poor "critter" had only lived long enough. We have made great strides in the direction of keeping down the per-capita cost of food and medicine; in increasing the efficiency of our service, while reducing the number and wages of our employees; and if there has been any tendency in our association towards "unionism" in the matter of our own wages, it has certainly not found expression.

The primary source of revenue of a hospital is its beds, with the attendant general nursing and feeding. For this service a daily or weekly rate is charged, varying in amount according to class of accommodation, which generally means merely the difference in location of beds and surrounding appointments.

In making up a schedule of rates for bed, board, and nursing in your hospital, you should, as far as possible, be governed entirely by your costs—cost of building and equipment and cost of operation. And in apportioning this cost according to the number of your beds, do not lose sight of the fact that those beds are likely to be vacant a good portion of the time. The average vacancy in our hospital is 25 percent—and at that we are overcrowded during three or four months out of the twelve. But we must keep our doors open at all times, every bed in readiness every day and night, the regular quota of nurses and employees on duty the year round; the fixed expense goes right on at practically the same rate, whether we are crowded or not. If there are already hospitals in your community, the precedent set by these in the matter of rates may have to be reckoned with in the beginning. But if you find after a trial that their rates would mean your ruin, do not give up in despair, but go frankly to your colleagues, and it is ten chances to one that you will find them in the same predicament in which you are. The course to be pursued is then plain.

When we opened our hospital in Minneapolis fifteen years ago the established ward rate in the hospitals of our city was $6 a week. We tried this rate, but soon found it inadequate. We called on the other hospitals and found that they did not like it any better than we, and so the rate was raised all around to $7. Twice this performance has been repeated without even a meeting of the hospital executives to discuss the matter, and today the nine or ten general hospitals of our city are getting $9 per week for their ward beds.

The rates charged for double or single rooms are largely a matter of location and equipment of rooms, but they must bear some proportion to the ward rate, which is the basic rate. In our hospital we have double rooms at $10 to $15 per week per bed, and single rooms at $12 to $35 per week.

It is doubtful if there is any small general hospital, conducting a training school and maintaining the ordinary medical and surgical service and equipment as required by the profession and the public today, which can care for its patients at less than $2 a day. If the hospital has no training school, but must employ a number of salaried graduate nurses, the cost will run much higher. We know, therefore, that even at $9 per week we are losing money on our ward service. This loss, however, we are able to recoup in our private rooms, especially in the higher priced rooms. Every small hospital should have as many of these rooms as its clientele can possibly support. They occupy but little more building space than the cheaper rooms, and all that is necessary to obtain practically double the rate for them is to equip them with a bath and put an additional $100 into the furnishings. This added cost will be returned several times in a single year, giving you a good source from which to cover your losses in the wards, and from which you may also obtain a surplus for free work, or for necessary improvements and extensions of your institution.

But bed, board, and nursing is not all that your hospital has to sell, nor is it all that the average patient wants to buy. Every hospital has special departments and services for which special charges are or should be made; and these charges should bear no proportion to the weekly rate paid by the patient, but should be alike to all, and fig-

ured frankly on a basis of cost, with a liberal margin of profit. If such services as the hospital renders in its operating rooms, its pathological laboratory, its x-ray laboratory, or even in its ordinary department of nursing, could be measured according to their real value, who would limit the price? Certainly not the public; so why should we, when the matter is left to us, set it so low that our institutions with difficulty support themselves?

The regular weekly or daily rates quoted by a hospital should properly not include anything more than bed, board, and general routine nursing and medication. It is manifestly unfair to fix a certain rate and then say, "This includes all medicines and dressings," or "This includes everything," as the fiction issued by some "sanatoriums" reads. Some of your patients will have a great deal of medicine, others practically none; and in these days of serums and specifics of all kinds the medicine bill often exceeds the entire weekly hospital rate. It is also unfair, both to yourself and to the patient, to fix a certain fee for operating room or laboratory service. No two cases in a day are alike, either as to time or materials required—one may take only a half hour of your operating room and attendants and just a few yards of gauze, another two hours and two bolts of each, respectively. So, why should you gamble on it? It is certain that, even if the patient feels that he is taking a chance, he does not want you to take any. And why should not your ward patient pay just as much for operating room or laboratory service as your private-room patient? Those of you who conduct hospitals in smaller communities know that the fairly well-to-do, especially among farmer folk, will often take a bed in the ward; and those of us who do business in the cities know that a great many of our ward patients are corporation cases.

I am not prepared to set up a schedule of rates by which any and all hospitals may do a profitable business, but, to illustrate the method of charging which I consider just and the rates which in our case at least have proven sufficient for self-support, I will quote a few individual accounts taken at random from our patients' ledger.

No. 1 is the case of a carpenter who fell from a building and sustained a broken forearm and a dislocated hip. His bill reads:

Ward, at $9 per week, 7 weeks 6 days	$70.80
Dressings	3.05
Medicines	1.45
Pathology	.50
X-ray department, 4 skiagraphs at $5.00	20.00
Crutches	1.25
Total	$97.05

Examining the dressing room slips in this case, we find that the patient had two casts, some special splints, and bandage material and cotton, which brought the total charges in this department to $3.05. The medicine bill of $1.45 is for a prescription, twice refilled, which the doctor gave the patient for some slight complaint not related to his injury. The pathology item of 50 cents is a fixed charge which the hospital makes for urinalysis in all cases. The x-ray department reports having skiagraphed the patient at two different times, two locations each time, making four negatives accepted and approved by the doctor. Five dollars is our minimum charge for one "picture" of an ordinary fracture case. From that the schedule rises to $10, $15, and even higher, depending on the character of the case. We find that even at these rates we are doing this work considerably cheaper than the doctors who have similar apparatus in their offices. As a result, our staff members invariably go to the hospital for x-ray work, even in minor and exploratory cases, where the patient does not remain for treatment. This department is, therefore, a source of considerable revenue to the hospital.

No. 2 is an ordinary acute surgical case. This bill reads as follows:

Room, at $18 per week, 2 weeks	$36.00
Hospital nurse, at $15 per week, 1 week	15.00
Operating room	7.30
Anesthetist	2.00
Dressings	2.50
Medicines	1.65
Pathology	2.50
Total	$66.95

The operating room charge of $7.30 consists of the following items, which the supervising surgical nurse has entered on a blank much resembling a grocer's order slip: operating room, $3.50 (which is our minimum charge for one hour or less); anesthesia, 60 cents; alcohol and other disinfectants, 50 cents; gauze, sutures, bandages, and dressings, $1.50; gowns, sheets, and towels soiled, 50 cents; surgeon's gloves spoiled, 1 pair, 70 cents; total, $7.30. The hospital employs special trained anesthetists, and makes a charge of $2 in each case for this service. The pathology in this case, amounting to $2.50, consists of the routine 50-cent charge for urinalysis and $2 for a microscopic examination of a frozen section.

Patients very rarely complain of these charges as being unreasonable. Sometimes a knowing one will tell us that such and such hospital charges just $5, no more and no less, for operating room service; but we have no trouble in convincing this person that it is just as unbusinesslike for a hos-

pital to put a uniform price of $5 on operating room service in each case as it would be for his or her grocer to put such a price on the supplies for any family's Sunday dinner, with the specification for the dinner left to the cook. As to other special charges—such as dressings, medicines, laboratory, and x-ray service—any dissatisfied patient needs only to inquire of the different establishments dispensing such supplies or services to learn that the hospital is the cheapest place to buy them.

The more special services the hospital can offer to its staff and patients, the better it will serve both and the better will be its revenues. The time is fast approaching when all the various therapeutic agencies—such as baths in all their forms, temperature and light treatments, massage, etc.—will all be centered under the roof of the modern hospital, accessible to the public at much lower rates than is now the case with each trying to build an institution around itself. When the legitimate general hospitals once take up this extension of their service to the people in earnest, it will mean the deathknell of the fake "cure" institutes which infest our land and dupe the ignorant and suffering with their pretenses to be masters of secret sciences.

My paper is already much too lengthy, and I have said nothing of the part the training school might be made to play in the solution of our problems. I have purposely overlooked this factor. I am not favorable to the exploitation of the training school for financial gain. Of course, each pupil should be given a varied number of a varied kind of cases to nurse privately in the hospital, and this service should be charged for at a rate of not less than $10 per week; we make it a rule to charge $15. And I look forward to the day when, for the pupil's own benefit, it will be the rule of training schools that each pupil must have a few weeks of private home nursing before her training can be called finished; and, of course, the hospital should charge for this service. Properly managed, the training school of even a small hospital can contribute a good deal toward the support of the institution without any abuse of the curriculum.

But I hear someone ask, "What about charity and the free work which we must do?"

Let us all be reminded that our hospitals have no obligation to do free work unless they have received money for that purpose. Money given to the hospital for buildings and equipment is money invested, and it should not be expected to yield any more in this form of investment than a fair commercial rate of interest. To this extent our hospital is obligated to do free work in return for any gift toward its erection or extension; beyond that the public has no right to expect free service from the hospital. But when a community rears a hospital, it opens up a new avenue through which its benevolent people and people of means may perform more real charitable service than through any other path theretofore leading to the poor and needy in the community. It is the duty of the hospital to educate the people to a realization of its value as a powerful means for good among the poor, sick, and suffering.

Let us come to a realization of the fact that the hospital can be nothing more nor less than the medium through which benevolent people may perform charitable service. The finest example of charity to the helpless sufferer is given us in the parable of the Good Samaritan. Preach that in your community; put it into practice. Organize the women of your town into a hospital charity association; make it broad enough to include both the wife of the banker and the wife of the baker. Such an organization, working in conjunction with our hospital in Minneapolis, has expended over $10,000 for the care of poor patients in the hospital during the few years of its existence, and the social service which it has rendered in addition cannot be measured in money. Go to the men in your community whom you know to have the means, and induce them to become Good Samaritans. Follow up the cases in which they become interested and keep them informed. Soon you will find your charity cases a source of joy instead of worry, and your good men and women will rejoice with you. Not the least joyful will be your bookkeeper, who will be able to render a statement showing all bills paid, all patients' accounts closed, and a comfortable balance in the bank at the close of the year. This will inspire confidence in your institution, and you will soon find it rated not only at the bank as a good credit, but in the hearts of the people as a factor for good not excelled by anything in the community.

An inexpensive sputum-cup, to be used in an ordinary holder, may be made of ordinary white fiber manila paper, folded and dipped in hot paraffin, which, hardening immediately on exposure to the air, glues the overlapping edges and gives support to the box. Water heated to 100° F. will not penetrate a box made in this manner. Water at ordinary temperature will remain in them until it evaporates. Sputum-boxes may be made in this manner at a cost of 8 cents per hundred. The advantages of such sputum-boxes are: 1, they are inexpensive; 2, they afford employment for convalescing patients who make them; 3, since they are white, the faintest tinge of blood is readily observed; 4, paraffin being highly combustible, the destruction of any bacteria present is assured when the used cups are burned.—Robert M. Alexander, M. D., First Assistant Physician, State Asylum for Chronic Insane, Wernersville, Pa.—Jour. Am. Med. Assn.

IDEAL SANATORIUM ADMINISTRATION OF THE PRESENT DAY.

What Has a Physician Who Refers a Patient to a Sanatorium a Right to Expect—What Is the Patient's Status?

By JOHN M. SWAN, M. D., Rochester, N. Y.

IN Bunhill Fields Cemetery, in London, the chief burial place of the nonconformists of England, there is a monument with the following inscription: "Here lyes Dame Mary Page, Relict of Sir Gregory Page, Bart. She departed this life March 11, 1728, in the 56th year of her age. In 67 months she was tap'd 66 times. Had taken away 240 gallons of water without ever repining at her case or ever fearing the operation." It is nearly two hundred years since this curious pathological record was written. Today what physician can say that he has had a patient who required tapping more than once who did not repine at her case or who did not fear the operation? On the other hand, in this day of hospital facilities for the sick, what can be done for the comfort of a chronic invalid who requires tapping once a month for an indefinite period? In other words, the problem of the care and treatment of the chronic invalid is possibly less readily solved than it was in 1728. In that day, no doubt, Dame Mary Page was carefully looked out for at home and made as comfortable as possible until the termination of her ailment. In 1913, however, we demand action, and our patients clamor for relief, and they expect permanent relief at that. Fortunately, we are able in many instances to give that relief; but there still remain the cases of chronic heart disease, chronic nephritis, chronic liver disease, and chronic joint disease, to mention only a few, that must be cared for until permanent relief is found in a merciful death. The general hospitals in our cities and towns cannot care for these sufferers. The beds are needed for acute cases; cases that can be discharged cured or improved in a short time, so that other acute cases may be admitted to fill their places. If such a patient is rich, he may be cared for by skilled attendants at home, and be made fairly comfortable and may be passably cheerful. If, however, the patient be poor, he must remain in his cramped quarters in his own house or lodgings, and he must be satisfied in many instances with what well-meaning, but nevertheless bungling, efforts are made for his comfort. If such a patient can be taken into a hospital, the authorities of the institution are likely not to desire his presence for more than three months; and the patient himself is likely to become discontented with his surroundings and to complain of the noise caused by the activities of an institution engaged in caring for acute surgical and medical cases. Then, he is liable to make confusion worse confounded by his repinings, which are often loud and long. Of course, he may be admitted to a home for incurables, if there is room and he will make application. But the institutions which undertake this kind of work are few, and the applicant often has to wait a long time before he can be admitted. Still other problems are presented by the patient who becomes delirious and excited in the course of an acute infection, and who is not a suitable case for commitment to an institution for the treatment of mental diseases.

Some of these chronic invalids are bed-ridden; some are ambulant. What shall be done with them? They are very interesting to themselves; but scarcely so interesting as medical problems, because they progress so slowly and the steps of their progress are so well understood that they lack the stimulus of the acute case. Much can, however, be done for them by the methods of physiologic therapeutics and without the use of drugs, particularly for the ambulant cases; occasionally a bed-ridden patient may be converted into an ambulant case. They need quiet, an opportunity to spend the greater portion of their days in the open air, a carefully selected and particularly cooked, nutritious diet, competent nursing, a chance to receive massage, electricity, hydrotherapy, active or passive gymnastics, etc. In some hospitals an effort is being made to supply these wants, but in the majority of city hospitals no facilities are at hand as yet for this sort of work. To meet the needs of this class of patients, numerous sanatoriums have been established in various parts of the country. Unfortunately many people associate the name sanatorium with mental diseases, and many patients who might be benefited by sanatorium routine deny themselves the opportunity of getting the amount of benefit possible to obtain.

The employment of sanatoriums for the treatment of patients suffering from chronic disease is no new thing. In the days of ancient Greece the shrines of Æsculapius were resorted to by many Greeks for the recuperation of shattered nerves and spent forces. The shrines were located in beautiful spots in the country; nature was assisted by the arts of the landscape gardener; quiet

was supplemented by religious observances and physiologic therapeutics were employed without restraint. The Romans availed themselves of similar means for the preservation and restoration of health, and the remains of their baths are to be found today wherever Rome had more than a temporary foothold. The great Christian emperor, Charlemagne, went to Aix-la-Chapelle or Aachen to be treated for syphilis. In continental Europe the sanatorium idea has been perpetuated and elaborated until today we find Karlsbad in Austria. Wiesbaden in Germany, Aix-le-Bains in France, and numerous other resorts in these and other countries annually drawing thousands of patients, real and fancied, from all parts of the world. The plan of these health resorts is identical, with individual variations. There is the *kurhaus*, a combination of restaurant, reading room, theater, and club, with its garden, containing lawns, woods, and flower-bordered walks, where music of the best kind can be heard two or three times a day. There are the bathing establishments and institutes for other forms of physiologic therapeutics; there are chances for walks, drives, trips on lake or river, etc.; there are the springs for drinking, other springs for bathing, and there is the spirit of order and regularity which helps the invalid.

These European institutions have been imitated in the United States, but, so far as the writer knows, all the American health resorts are in the hands of individuals or corporations, and are not managed by the municipality or by the state in which they are situated, as are the best of the European resorts. In the American resorts only a few of the details of the European models are copied. The *kurhaus* feature, the center of recreation, is not to be found in the American resort. If there is a good reading room, there is no theater; if there is an attractive garden, there is no orchestra; if there are opportunities for walking, there are likely to be few or none for driving, etc. In the majority of the German health resorts the card room has been abolished, or, if it is retained, games of chance are prohibited. In the United States there are health resorts in which the stock ticker can be found! Why not roulette, poker, and three-card monte? In the United States, if religion is a part of the plan, it is likely to be the largest part; and, if the secular plan is adopted, there is likely to be no opportunity for the religiously inclined person to satisfy the needs of his spiritual nature.

The physician in the United States who sends his patient to a sanatorium has a right to expect the sanatorium to provide for the esthetic side of the character of his patient, if he has an esthetic side, as well as to offer opportunities for the treatment of his disease. It would be a good plan to try to develop such a character where one is lacking. There should be at hand the quiet of woods, the opportunity to walk among flowers, the possibility of listening to good music, the ability to walk, drive, ride, motor, row, sail, or to attend a theatrical performance of some merit, according to the inclination of the patient. All work and no play makes Jack a dull boy, and all treatment and no amusement makes a patient an impatient.

The medical practitioners in the foreign health resorts are licensed to practice under the laws of the country in which the resort is located. Many of them are men of extraordinary scientific ability, and hold teaching positions in the universities. They depend for their maintenance on their professional fees, and I am sure that those of my acquaintance give their patients that advice which they consider, after a study of the case, the individual requires. The physician in the United States who sends his patient to a sanatorium has a right to expect that the sanatorium physician shall be licensed according to the laws of the state in which the institution is situated; that he shall be a man who is a student of medicine as well as a practitioner; and that he will use his best mental powers to arrive at a diagnosis which will confirm that made by the patient's physician, or, if he should reach different conclusions, that he will be able to give his reasons from the result of modern scientific study of the case. The laboratory, the instruments of precision, and the library should be at his disposal, and he should have a proper corps of trained assistants in order to be able to make the best use of them.

The opportunities for the treatment should be at the sanatorium physician's hand. There is no one drug that will benefit all patients; there is no one method of physiological therapy that will benefit all forms of chronic disease. Brine baths—hot, cold, and carbonated; fresh water baths, electric light baths, vapor baths, various douches, massage, galvanism, faradism, high frequency electricity, static electricity, x-rays, the gymnasium, the Zander institute, radium and other radioactive bodies, and mineral waters accurately analyzed, all have their place, and should be available and be administered by attendants who have as their sole motive the benefit of the patient and not the running down of a rival institution or the advancement of one particular form of treatment into a panacea. The pharmacy is still of value, and should not be abolished for the purpose of giving more of this, that, or the other form of mechanical treatment.

The weakest point in the American health re-

sorts is the relation of the business management to the medical staff. The latter depends for its existence on the former. The business manager takes the ground that it costs so much to get the patient to the sanatorium, and it is the duty, and sometimes the first duty, of the physician to keep the patient in the institution for a certain length of time in order to get that cost back into the treasury and have a little left to appear on the plus side of the balance sheet. It has been claimed that in some institutions the medical men have been expected to order as many of the more expensive forms of treatment as possible for the good of the service, and that, when enough have not been prescribed, an explanation has been demanded. A patient sent to a sanatorium by a physician will not always find conditions in that institution suitable for his particular temperament. It does harm to try to have such a patient stay when he does not wish to remain. It has been said that the physicians in certain institutions have been required to send misleading reports concerning the progress of the patients under their care to the families in order to induce a longer residence. It has also been said that at certain other institutions the physicians are required to try to make the patient believe that that sanatorium is the only place in the world where he stands the least chance of securing an improvement of his condition. I have heard of a patient with residual paralysis after acute anterior poliomyelitis who was referred to a sanatorium. After the patient had been examined and treatment instituted, the mother of the child asked the physician in charge of the case whether, if she went home and had a competent masseur who could also give the electrical treatments, the patient would not do quite as well. The physician said that in his judgment the patient would do quite as well. After the patient had left the institution the physician was called to account for his opinion by the business manager, who asked him how he thought he would earn his salary if he sent the institution's patients away.

A chronic invalid at a sanatorium will talk about his "case" with anyone who will listen—his attendant in the treatment room, his waiter in the dining room, and the other patients. He is quite able from the remarks made by these irresponsible authorities to decide that certain treatments that someone else is getting would be better for him than those that have been prescribed. The physician has a right to expect that an outlined plan of treatment shall not be changed as the result of such whims. And yet the business management of sanatoriums would advocate catering to the whims of patients in the line of treatment for the additional revenue to be derived. Immediately treatment is changed at the patient's suggestion, all control is lost. On the other hand, if the original plan is insisted upon, some patients will become dissatisfied and want to move on. It would be better to lose a patient by the latter method than by the former method.

In the Adirondack Cottage Sanatorium the following quotation from Ralph Waldo Emerson hangs in the drawing room:

"There is one topic peremptorily forbidden to all well-bred, to all rational mortals—namely, their distempers. If you have not slept, or if you have slept, or if you have headache, or sciatica, or leprosy, or thunderstroke, I beseech you, by all angels, to hold your peace, and not pollute the morning, to which all the housemates bring serene and pleasant thoughts, by corruption and groans."

The physician who sends his patient to a sanatorium has a right to expect an effort to be made to give that patient a better philosophy. One should not expect the medical staff to undertake such a task, unless one member who wishes to undertake it does nothing else. It might well be put in the hands of a trained psychologist. But the cultivation of dissatisfaction and peevishness should not be a part of a sanatorium routine by encouragement of the servants to repeat bits of gossip to the business office.

In the German health resorts a patient is allowed to pay his *kurtax* and buy his treatment tickets without consulting one of the local physicians. He may bring his treatment instructions from his home physician and follow out that treatment. There are weighty objections to this plan; but it is a more equitable plan, so far as the home physician is concerned, than the endeavor to force examinations and treatments on unwilling recipients.

The sanatorium is a potent influence for good in many cases; in others it may be just as potent an influence for harm. In order to get the best results, from the viewpoint of the patient and his family physician, the medical work should be in no way hampered by the business management. It would be best if the medical director were the responsible head intrusted with the control of the business policy, or at least with the employment of the head of the business department. Then the business office could not nag the medical staff by demanding laxity of scientific work for the purpose of pleasing and retaining a person who wished to be treated empirically or without careful study. I believe resorts should be open to the practice of any legally qualified physician. I think it would be best if the patients were sent

to the physician and not to the institution. It is a common attitude of city hospital trustees to assume that patients go to their particular hospital as a hospital. This, I believe, is not true. They go to the A hospital because Dr. X is on its staff. If the patient does not like his room, his meals, his treatment, or his physician, he ought to be free to change any one or all of them.

If in this country a place possessing the proper natural advantages of situation, climate, mineral springs for both drinking and bathing, and owned by the state or the federal government, could be thrown open, under suitable regulations, so that hotel-keepers, shopkeepers, amusement enterprises, and therapeutic institutes could do business, and legally registered physicians could practice their profession, we might hope, under a liberal *kur-direktor*, to reproduce the best features of the continental European health resort. A physician could refer his patients to another physician in whom he had confidence in such a resort for a day, for a month, or for six months without the fear that his patient would be retained twice as long as the period for which he was sent. If the patient did not like his hotel, he could go to another without the physician being held responsible for his defection. If the patient did not like his physician—and some patients do not like the physicians to whom they are referred—he could go to another. The amount of hard feeling produced in that case would depend on the first physician's philosophy. If he liked neither the one nor the other, nor the treatments ordered, he could be perfectly free to leave the place. In such a place the experiment of having a trained psychologist for the purpose of improving the mental attitude of the patient toward his affliction could be tried. The opportunity for a suitable religious atmosphere should not be neglected.

Such a health resort would in a few years attract a group of scientific men to take up the work of diagnosis and treatment, and would attract a clientele of nation-wide, if not world-wide, affiliations.

CARING FOR THE INFANT IN THE HOSPITAL WARD.

Every Child Is in Danger of Endemic Infection—Ills of Careless Feeding—Neglect—Some of the Remedies—More Nursing—More Individualism.

By ALFRED HENRY BEIFELD, M. D., Chicago.

THAT the difficulties in the care of infants are multiplied many times when, well or sick, they are kept in asylums or hospitals, is a well-known fact. In Europe, where this subject has been given close study, the term "hospitalism" has been applied to that condition into which the infant falls, which not only prevents his thriving, but which may only too often lead to his death. Up to within recent years the mortality in most foundling asylums and in many infant wards has been appalling, being sometimes as high as 90 percent. While such tragic figures are happily quite rare now, they are still often higher than need be.

Let us pass over this rather gruesome chapter in the history of institutional medicine, without attempting to interpret the lesson it might have to teach, and turn to the study of present-day conditions with the view of finding those causes which operate to hinder the normal development and thriving of infants immured in hospital wards.

Our problem may be approached from two angles—the study of those conditions developing in infants when in hospitals, and the consideration of the differences between home and institutional care of babies.

The observation has been frequently made that infants in institutions will not tolerate simple cow-milk mixtures, but will develop diarrhea following their administration. This does not occur with breast milk. It is often impossible to secure any large quantity of breast milk, and so as a result of experimentation it has turned out that cow's milk may be given, provided the sugar content is reduced so as to prevent the fermentation in the intestine responsible for the diarrheas. The albumin milk of Finkelstein is the original of this type of modification, and is tolerated when nothing else will serve. It seems to be a strengthener of digestion during its transition to more stable and permanently nutritious forms. I assume here that the directing physician is a well-trained man, for it must be obvious that without expert control no success is possible. Another cause of infantile diarrheas might be found in poor or dirty milk. To exclude any possible danger from such a source, the use of a certified milk is desirable. To further exclude damage from bad cow's milk, sterilization at 180° for 20 min-

utes is highly advisable. That the same digestive disturbances may be due to faulty feeding—overfeeding or ill-balanced feeding—must be evident. No institution in which babies are cared for should tolerate errors in the technic of feeding.

A scourge of infants cared for in institutions is infections of the respiratory tract. Ranging from simple rhinitis, adenoiditis, and pharyngitis, overlooked by the careless clinician, to the more apparent bronchitis and pneumonia—these infections, especially in the cooler months, play a deciding role in the life of the little patients. They are only too often followed by dyspepsia, with resulting loss of weight, and a definite impairment of the digestive power and probably some disturbance of the metabolism. An infant already weakened by digestive disturbances, when infected, is in grave peril, while a normal one might escape with little harm. Just so, a first attack seems to predispose to further attacks, or at any rate an infant tends to become more often infected the longer it lies in the ward. One observer has calculated that during one hundred days three infections may be expected, the first one usually occurring within two weeks after admission. That these infections are air borne from one infant to another has been quite conclusively shown by the fact that the placing of some means of separation between beds—such as screens, partitions, and the like—serves to diminish the amount of infections, which at times may reach the dimensions of disastrous epidemics. It has been found, moreover, that the placing of infants subject to respiratory infections into a room partitioned off is sufficient to prevent future attacks, while those who are ill are not infrequently relieved of symptoms such as frequent abnormal stools, after a few days. Such observations tend to prove that the infections are closely associated with digestive upsets, and the recent experiments which show that infections artificially produced cause a distinct diminution in quantity of digestive juices secreted gives a foundation for the relationship. There are some who go so far as to hold that infections of the respiratory tract and "hospitalism" are one and the same thing.

These, then, are the chief hazards to which the hospital infant is subject. Where the surroundings are unusually bad, more serious specific infections, such as diphtheria and gonorrhea, become almost endemic, nullifying any real attempts at efficient hospital care, and becoming a menace to the community.

The difference between the care that the infant receives at home and that which it receives in an institution must be apparent. A nurse must care for several infants and cannot give sufficient care to any one, while the attention given to each one is hurried and without that individualism which a mother can give to her own offspring. Hasty feeding, with little care given to its individual needs and capacity, lack of exercise, lying in its bed most of the day and for days at a time, changed too seldom, and lacking the fresh air so important to its welfare, it is little wonder that even with the most suitable feeding it does not thrive. The expression of affection also is necessarily lacking, and this is maintained by one observer at least to influence the welfare of the infant. A casual connection between institutional care and "hospitalism" is not as easy to prove as it appears, although it seems most probable that it must play an appreciable role. I was most forcibly struck by this factor while visiting two foreign hospitals in a large German city. In the one, supposed to be one of the best infant wards in Europe, the infants were in poor condition, did not thrive on cow-milk modifications, even on those best calculated to neutralize the hospital influence. In this institution the nurses were poorly trained, there was no opportunity for the carrying of the infants into the fresh air, and none of the necessary hygienic rules were obeyed. In the other, a most unprepossessing building both inside and out, the control of a thoroughly experienced nurse and a proper hygienic regimen made possible not only success in all cases, but permitted that most difficult of feats—the artificial feeding of premature babies without even an incubator.

From this rather hasty sketch we must realize the disadvantages under which the institution cared-for infant labors. It seems not to tolerate as well the cow-milk mixtures which are fed with impunity at home. It is subjected to a series of respiratory infections often disastrous or fatal. In the face of this it cannot hope for the individual care and attention so necessary to its well-being. The remedies, while obvious, are not easily put into effect in every institution, meaning, as they do, a greater outlay of time and money and a disproportionately large nursing staff.

Nevertheless, wherever it is desired to have a high degree of success in the care of the infant, it is important to have, first of all, a skilled and enthusiastic directing physician and an indefatigable and experienced nurse in charge. To combat respiratory infections, the closest watch should be kept for the outbreak of even the most innocent-appearing colds, in order that isolation and a simple local treatment may be at once instituted. In view of the fact that absolute proof of the efficacy of the partial system of isolation is lack-

ing, I should urge each institution to experiment with a temporary arrangement, such as the erection of partitions between each bed, extending out beyond the foot, in a special ward to be used for the purpose. This should be used for cases admitted with respiratory infection, as well as for those which develop in the wards. In times of those epidemics which at the change of seasons sweep through a whole institution, it may be well to use simple sheet partitions. Nurses or attendants with such infections should be transferred to other parts of the building wherever possible. Local treatment I believe to be helpful to a certain degree. It should be simple and mild, such as the introduction into the nose of a borated petrolatum, which serves, however, only in those cases in which the nose alone is infected.

As far as the care of the infants is concerned, the problem is solved by having a sufficiently large number of nurses. A proportion of one nurse to three or four babies is excellent. If these are taught to realize the importance of infinite care and are watched over vigilantly by the head nurse, much can be accomplished. Where the number of available nurses is small, a satisfactory substitute is found in the so-called nursery maids, who are trained to become infant nurses for well babies in private families. These maids can attend to much of the routine, such as changing diapers, feeding, bathing, and the like. They may be of great service in setting babies up in bed and in taking them out of doors when conditions permit. A scheme that I favor as a means of insuring that infants will be moved sufficiently is to have them taken from their cribs at feeding time.

The use of a spray bath as compared with the old-time bath tub is of advantage in several ways —it prevents the danger of infection, is tonic in effect, and saves time. The tonic effects of fresh air are so evident that every effort should be made to secure the airing of wards and the removal of babies into the air. On such occasions they should be removed from their beds.

These, in brief, are the ideal arrangements to be adopted in order that the greatest success may follow in the institutional care of the infant. There can be nothing more gratifying than to note the improvement in conditions which follows a reform based on the above principles.

Supreme Court Justice Goff, of New York, recently declined to excuse from duty for the October term of court a juror who asked for exemption on the ground that he was suffering from a slight nervous ailment. "The atmosphere of a court room," said the Justice, "is so restful and peaceful that it is better in many cases than a sanatorium. I will keep the juror until the end of the term in the hope that he will find his nerves greatly benefited by the experience."

Goat's Milk Should Be Boiled Before Using.

For many years goat's milk has been noted in this country as a food for sick babies, and in many parts of the world it is the common milk of the people. In recent years there has been much importation of the milking breed of goats, especially from southern Europe, Italy, Switzerland, Spain, and other mountainous districts, where the goat has been brought, through many generations of careful breeding, to a very high milk-giving power, and from Nubia and the desert countries of northern Africa.

Now comes the Agricultural Department of our Government, ever watchful of the interests of the people and efficient always as an agent of great helpfulness to the producing parts of our population, with a wholesome warning concerning the use of goat's milk, as follows:

Washington, D. C., scientists of the Bureau of Animal Industry have compiled a bulletin which is of practical interest to all who raise goats and to such invalids as have been prescribed goat's milk as a diet.

Proofs have conclusively established that the transmission of a fever known variously as "Malta," "mountain," "slow typhoid," or by certain other designations, to man is caused by the milk of infected goats. Careful observations in Texas and New Mexico show that the disease has always made its appearance among people connected with goat raising. Entire families have been taken sick with it on the goat ranches. The sickness appears usually after the kidding season, during the months of April, May, and June, when the people are in closer contact with the goats. Observations have also shown that just over the border in Mexico goat herders are not nearly so liable to the disease. Conclusions have been drawn that this is not due to any natural immunity, but to the fact that the Mexicans always boil the milk before drinking it, while the Americans use it raw.

The general opinion has prevailed that the United States is free from Malta fever and that the disease has occurred only through importations. It now seems evident, however, that the Malta fever has existed in Texas and New Mexico for at least twenty-five years. The fever takes its name from Great Britain's island in the Mediterranean, where the disease has been exceedingly prevalent among British soldiers and sailors. Its occurrence in tropical and subtropical localities has been noted in almost every country. A number of cases have been reported among our soldiers who had just returned from the Philippine Islands.

Pasteurization of infected milk for twenty minutes at 145° F. is sufficient to destroy the organism which transmits the disease. Therefore, milk pasteurized for the destruction of typhoid and tuberculosis germs will also be free from the Malta fever germ.

The symptoms in human beings are usually pronounced and give rise to a more or less severe affection. The most striking symptom is an attack of fever, with periods of normal temperatures. The duration of these periods varies considerably during the disease. The fever may be remittent or intermittent; it may be continuously high or low, and at all stages of the disease the type of the fever may change. It may be very acute from the onset, the fever setting in with chills and rise of temperature, associated with severe headache and pain in the back, and a general ill feeling. The pulse and respirations are generally affected in accordance with the height of the fever. The course of the disease may extend for from six weeks up to a year, and cases have even been observed in which relapses have occurred for three years. In human beings the mortality is estimated at 3 percent.

In animals the course of the disease always appears to be protracted. Cases have been noted in goats that extended over a period of more than a year. The prognosis in animals is always favorable as far as the health is concerned, but, although the disease has no active effect on goats, its eradication must be considered for the public health, and this matter is particularly important since there has been a tendency recently among physicians to advise the drinking of goat's milk for children and invalids.

The negroes of Kansas City, Mo., propose to build a $30,000 hospital for the sick people of their race.

AMBULANCE SERVICE FOR THE SMALL HOSPITALS.

By MARGARET M. MOORE.

SUPERINTENDENT JACKSON CITY HOSPITAL, JACKSON, MICH.

A CERTAIN city hospital, with a capacity of 50 beds and a monthly average of 35 patients, about half of them paying and the rest nonpaying cases, had for years used a hearse ambulance, maintained by an appropriation from the city. The janitor was the driver, and took care of the horses.

On a call there were taken from the hospital force the janitor, the orderly, and, in accident cases, the intern. The disadvantage of this arrangement is evident, and, moreover, an orderly capable of handling horses was not always available in the cases where a call came when the janitor was off duty. With all its defects, however, the system was more satisfactory to many patrons than the present arrangement, under which a private concern furnishes an autoambulance, for the service of which the city pays for each patient brought to the hospital; and the paying patient, on leaving, if his case necessitates such transportation, pays an ambulance fee much larger than that paid for his conveyance thither, a sum in which the hospital has no pecuniary interest, as it is the rate set by the motor owners themselves. For nonpaying patients the city pays the same rate as for their conveyance to the hospital. There are, in consequence, many complaints by patients of the injustice of this extra fee in addition to the already burdensome expenses of their treatment; and in many cases such patients have no choice, as they must be moved as comfortably and safely as may be, so that, as long as there is no competition in the matter of transportation, such persons are at the mercy of the private rate.

The advantage of the present arrangement is that it does away with the temporary withdrawal of an important part of the hospital's working force and at the same time frees the janitor of a double burden. Moreover, the conveyance is located downtown, where the majority of emergency cases occur.

As to the comparative cost of the two systems, the records give the expense for one year of the horse ambulance as $442 and that of the auto as about $694. This seeming greater expense of the latter system is, in the opinion of the hospital directors and superintendent, more than balanced by its far greater merits in point of speed, convenience, and comfort; while the loss of a horse and vehicle repairs have been known to make the cost of the old system greater than that of the present. And however desirable economy may be, it must always be remembered that the primary consideration in hospital service is the saving of life and not of money.

The Röntgenologist as a Specialist.

It has come to be very generally understood that the service of the x-ray expert has ceased to be that of a mechanician, and has taken on all the attributes of a medical specialty. For a long time most x-ray operators were nonmedical persons, who had taken up what was considered a branch of electrophysics. Their duty ended when they had produced for the surgeon a plate of the part of the anatomy under inquiry. But, with the broadening of the field of usefulness of the x-ray, it became apparent that the mechanical part of the work could be quite easily and quickly mastered, and that the real problem was to interpret what was on the plate; and this required a very thorough working knowledge, not only of anatomy, but of all branches of medicine, and especially was this true after the mechanical apparatus had been so developed that soft tissue changes could be noted, thus involving the whole field of pathology.

As Dr. Skinner pointed out in his article in the September number of THE MODERN HOSPITAL, this country has recognized the standing of the röntgenologist as a specialist in medicine. Germany has also taken a progressive stand on this same line, as shown by the following resolutions under which the German Röntgen Society is working:

1. Röntgenology is a duly authorized medical specialty, just as are laryngology, ophthalmology, etc.
2. The röntgenologist is a medical specialist, and, as such, in accordance with the usual medical custom, he is called in as a consultant by the patient or his physician in order to make or confirm the diagnosis.
3. The röntgenologist makes use of the x-ray examination in addition to the usual clinical examination. He alone decides what particular procedure shall be employed —radiography, radioscopy, orthodiagraphy, or teleoröntgenography.
4. All plates, diapositives, tracings, orthodiagrams, and teleoröntgenograms prepared for the diagnosis of the case are the property of the röntgenologist, just as histological preparations belong to the consulting pathologist. The röntgenologist will, however, as a matter of courtesy, be always ready, if requested, to place his plates and prints at the disposal of the consulting physician.
5. The supply of negatives or prints to sick clubs and insurance companies is a matter of special arrangement. Moreover, in urgent cases it is the usual custom for the röntgenologist to place the skiagram at the disposal of the surgeon.
6. The röntgenologist may at his discretion place a copy of the plate at the disposal of the patient, either gratuitously or on payment of a fee. This should, however, be done only in those cases where it will cause no harm or needless anxiety to the patient.

The nurse's training makes a woman patient and steady, and Heaven knows that a wife needs to be patient and steady nowadays, says the Cumberland (Md.) *News*.

The trained nurse, turned wife, is not, to be sure, of the clinging-vine type. She does not lean on a man when he is unable to hold himself up. She never contributes her hysteria to his brain-fag. She is self-reliant, self-contained. And in this age, that is what a man wants woman to be. There is absolutely no mystery in the prevailing tendency of men to carry off the best trained nurse they can find. We may even contemplate the possibility of a completely eugenic epoch when every bride, along with her marriage certificate, will be called upon to produce her hospital diploma.

PROPOSED METHODS FOR TRAINING HOSPITAL ADMINISTRATORS.[1]

Committee of the American Hospital Association Devises Course for Physicians and Different Course for Nurse Superintendents.

By W. L. BABCOCK, M. D., Chairman, and JOSEPH B. HOWLAND, M. D., and J. N. E. BROWN, M. D., Committee.

YOUR committee has prepared its report in two divisions—first, to cover the subject of the training of hospital administrators or executives whose future field of work presupposes the larger domain of the large general hospitals, and, second, the training of graduate nurses for positions as executives of smaller hospitals and as heads of departments in general hospitals. As this division is made, it becomes at once obvious that the method of training candidates under these two headings is quite distinct in subject-matter, methods, and practical application.

THE TRAINING OF PHYSICIANS AS HOSPITAL ADMINISTRATORS.

After careful consideration, your committee does not believe it is practical to establish regular courses for the training of physicians as hospital administrators. Any physician desiring to secure training for the position of administrator or superintendent of a large hospital should first take a position as junior assistant and learn the work from the bottom up. While it is true that only a comparatively small number of hospitals have assistant administrators or assistant superintendents, attention may be directed to the many excellent opportunities of training offered in state hospitals for the insane in the junior staff positions. The insane hospitals of New York and Massachusetts alone require over three hundred physicians to make up their medical staffs. Numerous vacancies occur annually, and in New York state the civil service examinations for the purpose of filling these positions are open to residents of any state. For many reasons the training in state hospitals for the insane provides an excellent foundation for work as general hospital superintendents or administrators; in fact, the regular routine, excellent methods, and administrative economies practiced in state hospital work furnish the young physician with an unusual outline for administration work in general hospitals.

Several of the larger general hospitals of the East and Middle West have from one to four positions as assistant superintendent or junior resident. These hospitals, together with the state hospitals mentioned, offer the only practical opportunities known to your committee for the adequate training of hospital administrators or executives.

Hospital administration requires broad training, covering, as it does, the executive business of the hospital, as well as certain medical and social work. It is impractical to teach this work in a limited course.

Liberal salaries should be paid assistants in training, so that desirable men may be encouraged to take up the work. The time spent in training first assistants before taking charge of large hospitals should be not less than three years, and preferably longer. The assistant, while attending to the routine duties of this position, should be familiarized with the duties of his senior, and in this manner, where several assistants are employed, each will understudy his immediate senior. It is an economical and social error to place an untrained physician at the head of a large general hospital. A certain number of physicians so placed may learn the business, but at what a sacrifice? The financial and professional interests of such an institution will certainly suffer materially until such time as the executive acquires a comprehensive knowledge of the many-sided requirements of the position.

OUTLINE OF PREPARATORY COURSE FOR EXECUTIVES OF HOSPITALS AND HEADS OF DEPARTMENTS.

This course presupposes that the candidate is a graduate or registered nurse, and has definitely decided to take up institutional work as a profession. The outline covers a requisite course of training for superintendents of smaller hospitals (100 beds or less), assistant hospital superintendents, superintendents of nurse training schools, night nurse superintendents, operating room supervisors, ward and corridor supervisors, and dispensary or out-patient supervisors. A modification of this outline could be used in the practical instruction of women for the position of housekeeper or matron.

The experience of two or three general hospitals that have for several years given a course in hospital economics, administration, and institutional nursing similar to the proposed standard course has demonstrated that any well-organized hospital of 150 beds or over can give such a course with great advantage to the pupils and material advantage to the hospital.

The heads of departments in any hospital providing this course are greatly benefited by their contact with graduate nurses from other schools.

[1] Report read before the American Hospital Association at Boston, August, 1913.

Their interest in their department is stimulated by the practical teaching methods outlined; for example, the matron, the dietitian, or the supervisor in whose department the pupil is working is keenly aroused to the necessity of making every effort to place the practical work of her department on a higher scientific and economical level. Her efforts may be stimulated by suggestions and criticisms from members of the class.

Pupils taking this course of training should act as assistants to the various heads of departments for a limited period of time, or in some capacity which carries with it a limited or circumscribed responsibility. After the course is once organized, the amount of time and attention that department heads give to pupils may be greatly minimized, and experience has proven that the teaching does not become an additional burden. It has been demonstrated that the adaptability of pupils in various departments varies to some extent, but that the general average of efficiency is reasonably high, and that few pupils fail to assimilate the training in actual practice. It is not expected that all pupils who take this course will become proficient hospital executives or department heads. A small minority, as in all lines of training, have mistaken their profession and are not adapted to institution work.

The course, as outlined, is essentially a practical one, and pupils should actively participate in the work of all departments of the hospital.

QUALIFICATIONS FOR ADMISSION TO THE COURSE.

Applicants should be registered nurses or graduates of hospital training schools which at least maintain the minimum standard adopted by the American Hospital Association in 1909. They should be graduates of at least two years' standing and between twenty-four and forty years of age. They should be single, in good physical health, and be definitely committed to a future of hospital work. If individuals could be manufactured as wanted and human nature made more pliable, it would be desirable to include in the qualifications for admission to the course a disposition and temperament of adamantine texture and resourcefulness. It should also be mentioned that, other qualifications being equal, the woman with a commanding presence, whose stature surmounts five feet five inches, and whose activity gives promise of much potential energy generally, proves the most successful in hospital work. Unfortunately all of these qualifications are seldom combined in one individual.

Nurses who seriously contemplate making hospital work their vocation should first carefully take an inventory of their mental assets in temperament, tactfulness, and adaptability, and their physical assets in stature, physique, and endurance. A conscientious survey of these qualifications, which cannot be bought, sold, or stolen, will unquestionably avoid future disappointments.

LENGTH OF COURSE.

The course as outlined covers a period of six months' practical work, including several didactic lectures. With this outline as a basis, courses of shorter duration in special hospitals could be arranged, notably in psychopathic, obstetric, contagious, tubercular, and pediatric work. Special courses in the administration of surgical departments and practical hospital housekeeping could also be arranged to cover a period of two or three months. A special course in "hospital dietetics and food service" could be given in a like period.

OUTLINE.

General Management.—Responsibilities of superintendent; by-laws, rules, and regulations; organization of departments; selection of department heads or supervisors; relation of hospital and its officers to the public; relation to city and county poor departments, associated and private charity organizations; cooperation with other institutions; attitude of local newspapers; relation of executive to board of trustees, attending medical staff, and auxiliary hospital workers; management of resident staff; appeals to public for financial assistance; nature of general and special bequests and endowments; investment of endowment funds; legal relations of hospital, its officers and employees; preparation of annual reports; preparation of specifications and contracts; general care of grounds and buildings; plans and location of new buildings; ambulance service; fire, elevator, liability, and industrial compensation insurance.

General Business Department.—Classification and training of office clerks; business principles and methods, including hospital bookkeeping; filing of records and reports; hospital statistics; office blanks and records; sources of hospital income; preparation of pay-rolls; cash balances; cost accounting; telephone service; reception of visitors; relation to other departments of hospital; receiving and recording patients' property; credit accounts; collection of old accounts.

Training School Department.—Methods of teaching; clinical or bedside demonstrations; demonstration room; preliminary course of training and special teaching of probationers; engagement of candidates; ethics of nursing; relation of training school officers and supervisors to pupils, to patients, and to other departments; training school blanks and records; preparation of curricu-

lum; assignment of head nurses and rotation of pupils; organization of night service; keeping of time books and ward and corridor inventories; construction, care and management of nurses' home; economy in the use of supplies; alumnæ work.

Matron's or Housekeeping Department—Management of central and branch linen rooms; sorting, storing, and reporting of flat work; checking and issuing linen room supplies; management, duties, and obligations of housekeeping employees; stock requisitions for dry goods, crockery, and housekeeping supplies; housekeeping time books; pay-rolls, blanks, and records; classification, discipline, and housing of employees; waste of food in pantries or dining rooms, and economy in the use of supplies; sale of old rags and other waste; destruction of vermin; inspection of waste and garbage.

Laundry Department.—Study and arrangement of laundry machinery; limitation of hand work; marking, sorting, washing, mangling, starching, and ironing; soap making; checking and issuing of washed goods; systematic and economical handling of soiled and washed clothing; handling of clothing of nurses and employees.

Steward's Department.—Contracts and bids for supplies; purchase of general supplies, provisions, perishable goods, furniture, and special equipment; storekeeper's records; requisitions for and issuing of supplies; monthly inventories of material stock and daily and monthly issue sheets; marketing for fruits and vegetables; per-capita allowance of provisions; waste of supplies; economical handling of meats and dairy products; meat cutting; cooperation between steward's department and kitchens.

Kitchen Department.—Kitchen management and division of work; preparation of food; delivery of prepared food from kitchen to pantries and diet kitchen; menus and dietaries; food waste; requisition for supplies; diet kitchen management; pantries and handling of pantry supplies; arrangement of kitchen and pantry equipment; trays and tray service; keeping food warm; night food service.

Surgical Department.—General management; receipt and issue of supplies; blanks and records; sterilization methods; preparation and care of dressings and sutures; supervision and assistance in operations; preparation for anesthesia; administration and choice of anesthetics; selection and care of instruments; planning, heating, lighting, ventilation, and equipment of operating rooms; ward and corridor surgical dressing rooms; operating room economy.

Pharmacists' Department.—Preparation of contracts and requests for bids; purchase and issue of supplies; monthly inventory and other reports; checking of prescription and issue records; storage of supplies; care of rubber goods and special surgical equipment; care of poisons and antidotes; pay requisitions for extras and special preparations; purchase of alcohol in bond.

Wards and Corridors.—Special supervision; practical teaching of supervisors in the training of nurses; general care of patients; care of equipment; requisitions and recording of supplies; relations to resident and attending medical staffs; relation to superintendent; superintendent of nurses, and other officers; attitude towards visitors.

Out-Patient Department.—Planning, equipment, and organization; special relations to in-patient department; clinical records and statistics; dental and other special clinics; school and visiting nurse work; relation to social service department.

Resident Staff.—Duties of resident physician, of house surgeon, of house physician interns; admitting of patients; treatment of accident and emergency cases; arranging of appointments; classification of patients; handling of attending staff patients; calling of coroner, police, priests, and county attorneys; consent of relatives for autopsy; handling of chronic and convalescent cases; isolation of infectious cases and care of dying; care of instruments, splints, and apparatus.

Mechanical Department.—Duties of engineer, electrician, master mechanic, and assistants; daily inspection of machinery, motors, etc.; heating; lighting; ventilation; refrigeration; purchase of coal and other supplies; water system; sewerage system.

The Threat to Close Hospital Beds.

The British people, who have almost held their breath in anticipation of direful results of the application of the Lloyd-George various compensation and insurance loans, are evidently come upon the actual realization of at least some of their misgivings.

The Hospital (London), whistling to keep up its own and the national courage, discusses the matter in this wise:

"Dealing with our criticisms on cathedral cities, the *Eastern Weekly Press* regretfully remarks that Norwich is traveling on the same road as Worcester in the financial sense, but has not yet reached the fatal edge. The writer then goes on to assume that those people who threaten the public with the closure of a ward are speaking with good cause, whereas, of course, in fact hospital knowledge demonstrates that such threats are idle in the sense that they can have no genuine force. The reason is that when a hospital is in financial distress, the closing of a ward, or wards, will not substantially help the institution's finances, for such a step merely tends to increase considerably the cost per bed occupied. It does little relatively to reduce the expenditure rendered necessary by the maintenance of a hospital capable of satisfying all the needs of the sick resident within the district which it serves."

NEW APPARATUS AND METHOD FOR DISINFECTION.

Major Munson, of the Army Medical Corps, Has Designed Inexpensive and Efficient Mechanism for Treatment of Clothing and Room Contents.

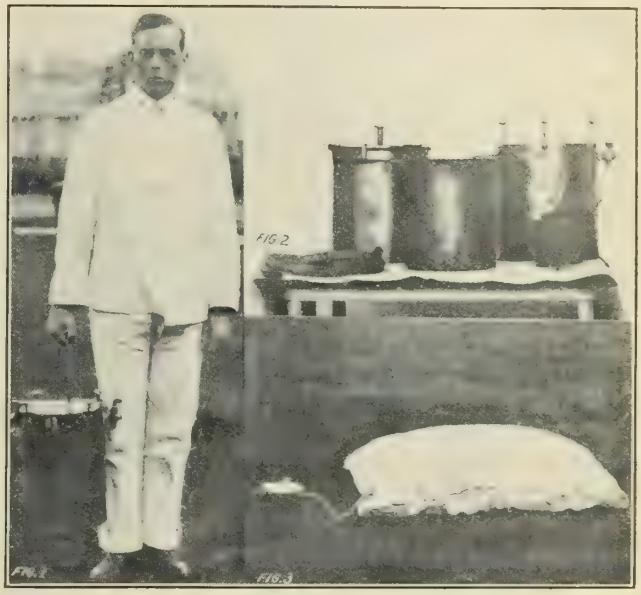
IT IS all but unanimously agreed that disinfection of rooms and contents cannot be effectively accomplished by any of the prevailing methods. Indeed, there is a general feeling that the ordinarily practiced formaldehyd disinfection is worse than none at all, because it gives a sense of security unwarranted by the actual results, and hence other precautions are likely to be slighted. Of course we know that formaldehyd gas will destroy any of the nonspore-forming microorganisms and also insects and vermin, provided there be present a sufficiently high temperature, enough moisture, and enough gas—that is, if the room or the container of the infected articles be amenable to a sealing process, so that the gas cannot escape. We must not forget, however, that the air in the room will always serve to dilute the gas and so lessen its destructive properties.

The results of many laboratory experiments showing the futility of gas disinfection as we are compelled to practice it in the rooms of a hospital, with all the physical interferences, and, what is more important, the sad experience many have had with infections contracted by patients following such practice, have prompted many excellent and careful administrators to discontinue gas disinfection entirely and to rely wholly on soap and water, or, at most, carbolic and bichlorid and water. But, however efficient these may be in the matter of a room, walls, ceiling, floors, and furniture, there is still the fabric contents of the room to be thought of.

It seems now that this problem of the disinfection of clothing is to be solved, and, as has been the case in so many instances in the past few years, the inspiration comes from the medical staff of the government service. Major Edward L. Munson, medical corps United States army, has devised an apparatus and a method for the disinfection of the soldiers' clothing and equipment that will serve the same purpose for hospitals and for municipal health service.

Major Munson's chief contribution consists of a single idea—namely, to place the articles to be disinfected in a collapsible bag. To work out his idea, which seems an inspiration itself, he had several physical problems to work out—(1) to evolve a gas generating apparatus portable in character, so that it could be easily transported to the spot at which it was needed; (2) to evolve a collapsible container easy to make, cheap, and efficient for holding the gas in such concentrated form as to make it effective.

Major Munson's experiments were exhaustive, and covered every phase of the subject—the making of an apparatus that would not catch fire or explode; that was practically fool-proof, so that the ordinary soldier could manipulate it, and that could be employed for any of the gases commonly used or desired; the selection of material for his bag, so that even the soldier on the march in an isolated country could make it.



Munson disinfection apparatus.

Fig. 1. **Disinfector.**—This disinfector, of a size suitable for posts or municipal health work, is carried like a bucket where needed to disinfect large rooms or materials. All that the man has to do is press the plunger and pure gas is delivered without spattering.

Fig. 2. **Small Disinfector Taken Apart.**—The simplicity of the apparatus is apparent. There is nothing to get out of order. The machine is self-contained, and all the parts pack within.

Fig. 3. **Disinfecting Outfit for the Field in Operation.**—The generator will charge a new gas bag with gas every five minutes. The generator may also be placed inside the gas bag among the infected articles and the gas developed.

As a part of his experimental work, he determined the destructibility of the various microorganisms, and, with the aid of Lieutenant George B. Foster, also of the medical corps, employed the bacillus prodigiosus, the colon, the various dysenteric organisms, and others. He found that with his apparatus he destroyed them all in a few minutes, whereas it took hours to do the same thing in a room when he was able to destroy them at all.

In a paper read before the last Hygienic Congress at Washington, and subsequently published

in Bulletin No. 2 of the War Department, Major Munson described in detail the work he did and its results.

Fig. 1 shows the gas generating apparatus ready for work. Fig. 2 shows the same apparatus taken apart. Fig. 3 shows the collapsible gas bag with the articles inside and with generator attached; all the operator has to do is to push the plunger. After five minutes the generator can be taken away for use elsewhere. In his description, Major Munson says:

"Several experimental generators were made. In its final simplified form, as made for me by the Kny-Scheerer Company, of New York, it is a cylindrical apparatus, which may be made in any convenient size. The material is preferably copper or brass by reason of their conductivity of heat. As little material is used as is consistent with proper strength of the apparatus, since the operation of the latter depends upon chemically generated heat, and the heating of an unnecessary amount of cold metal greatly interferes with its efficiency and is wasteful of chemicals.

"The apparatus consists of but three parts, all extremely simple, solidly built and not liable to injury—viz.: (a) an outer container, (b) a cover and gas bell, (c) a mixing can to hold liquid chemicals. Formaldehyd gas was chosen from its well-known excellent qualities. This gas was regarded as in many ways very superior to sulphur dioxid; but, as some might prefer to use the latter, it was borne in mind that the generator should be capable, with slight modification, of handling it. It was also thought desirable, if a highly poisonous gas should be preferred as an insecticide, as hydrocyanic acid, that the generator should likewise be capable, without change, of safely developing it.

"The more flexible the use of the apparatus, under the difficulties of supply in the field, and the greater the number of chemical substances it could utilize in emergency, the greater its practical utility.

"The ordinary method of generating formaldehyd, by mixing formalin and potassium permanganate in an open vessel, is a simple, easy, and excellent way of generating this gas for purposes of disinfection. Unfortunately, it is only applicable to a limited field of usefulness, as in the disinfection of rooms which can be entered while the reagents are mixed by hand. There is also much spattering of the reagents from the violence of the reaction, which must be provided against to prevent staining of articles in the vicinity.

"In order to secure the benefit of a gas for disinfection, it must be confined, if not wholly, at least to a material degree. Further, it is important that it should not be diluted with air any more than can be avoided. This is accomplished for the present apparatus as follows:

"1. By making an impermeable gas bag out of ordinary rubber sheeting. This, as furnished by the medical department, comes in rolls 54 inches wide. A strip 6 feet long, folded on itself, makes a bag 54 by 36 inches, which is able to hold the complete clothing, blankets, and equipment of two soldiers, together with the disinfecting apparatus. Any holes or cracks in the rubber are effectively sealed with small strips of zinc oxid plaster, applied hot. The edges may be stitched or pinned together for greater strength. The free edges are usually thus fastened on the two sides and the third open side for about half its length, leaving a permanent opening about two feet long, through which articles may be passed.

"In making the bag, the rubber surface is turned outside, with the cloth fabric on the inside. This is important for the reason that formaldehyd seems to combine with fresh rubber to a considerable extent, thus materially reducing the strength and disinfectant power of the contained gas in the first few experiments with such a gas bag.

"The seams of the bag are made permanently gas tight by strips of ordinary zinc oxid plaster, as supplied by the medical department, about 2 inches wide and passed over the edges of the rubber sheeting so that these come about in the middle of this plaster strip. The latter is applied hot and pressed smoothly and firmly into place. The resulting seam is absolutely gas-tight. Such a bag takes only a few moments to improvise.

"After putting the articles and disinfecting apparatus inside the bag through the permanent opening, the edges of the latter are held together and a tight joint quickly made with a suitable strip of zinc oxid plaster. This same plaster strip can be used for several disinfections without renewal.

"If the generator be used outside the bag, a glass or metal tube used to deliver the gas inside the bag is run through a hole in the strip of zinc oxid plaster. On blowing the bag full of gas and disconnecting the generator, the tube may be withdrawn and the hole quickly closed by pressing the plaster together, or it may be left in position and have plaster stuck over its open end. The rubber blankets forming part of the equipment of field and evacuation hospitals may similarly be used, or special rubber bags made for the purpose may be employed.

"Large amounts of formaldehyd can be generated in such a bag in a room without the slightest odor. As there is no loss of the gas through its escape, the generation of smaller amounts than are required in ordinary disinfection work would be equally effective.

"2. A similar impermeable gas bag can be quickly made of the soldier's poncho by sealing up the slit for the head and the several grommet holes with zinc oxid plaster. It is not necessary to stitch or fasten the edges of the poncho together, as the plaster holds firmly and the gas pressure inside is not sufficient to rupture or force it from its position. After use, the bag can be promptly pulled apart and the poncho returned to its original function. This poncho bag is 64 by 44 inches, and will hold the equipment of three soldiers.

"3. By the use of ordinary paper bags, such as are supplied by the subsistence department or are available in any community. If necessary, suitable bags can be quickly made of any size out of ordinary wrapping paper and flour paste, or the use of zinc oxid plaster to form the seams. The ordinary commercial 100-pound paper bag will hold all the clothing of the soldier, together with either his blanket or overcoat. It will not hold both of the latter in addition.

"But there are many larger bags on the market for other purposes, as, for example, the "moth-proof clothing bag." A cylindrical paper bag, 30 by 60 inches, when folded, and with due allowance made for pasting the edges of the mouth to make a tight joint, will hold approximately 8 cubic feet. In using paper bags for disinfection, they should first be looked over for cracks and tears, and these closed with strips of newspaper gummed in position with stiff flour paste. The seams are often poorly put together, and tightness may quickly be assured by thus pasting strips of newspaper over them.

"The generator may be used either inside or outside the bag. After the articles are put in, the open end is closed with flour paste applied to the inner edges, and the latter are folded on themselves and held tightly in position by ordinary paper clips. Or the end may be closed with zinc oxid plaster. If the generator is used outside the bag, the glass delivery tube may be thrust through the paper or inserted in the mouth before closing and a tight seam be made around it with zinc oxid plaster.

"Ordinary bag paper, when dry, allows the escape of very little gas through its pores. When blown up with gas, a little comes through so long as the internal pressure is greater than atmospheric pressure; but when these are equal, and as the gas inside cools down, there is little tendency to diffusion. But if the paper becomes wet, the condition is different, and the gas passes quite readily through the wetted spots, appearing as a whitish vapor. It thus becomes necessary to keep the paper bag from being wet. This can be done by using a filling of paraffin or some other such substance (such a bag is made by many concerns, as the Union Paper and Bag Company, of New York), or by wrapping the end of the delivery tube in gunny sack, towel, gauze, absorbent cotton, or similar material to soak up the excess moisture carried over with the formaldehyd, and thus prevent it from reaching and wetting the paper. Various other simple measures for meeting this need will also suggest themselves. An intercepting flask to catch this moisture has been tried, but was found undesirable in cold weather by reason of the occurrence of polymerization therein.

"No difficulty was found in accomplishing disinfection in paper bags. This has many obvious advantages for the military service and for use in civil hospitals and elsewhere. For ordinary field work, a generator like this sample, which would hold 150 cc. of formalin and 60 cc. of potassium permanganate or more, will not only do all the work required, but is perhaps unnecessarily large. Loads much smaller than the maximum may be used in the same machine, and several different sizes of generators are made to meet divers conditions. The size of the dosing box is proportioned for each apparatus so as to contain no more reagent than required for the reaction to which such machine is adapted.

"The brief time required to deliver the gas with the new apparatus not only greatly assists in the process of disinfection itself, but greatly adds to the utility of the method. A single one of the new machines is thus enabled in the same time to accomplish as much work as the aggregate of many others representing the best of the old type. This greater rapidity of operation has a marked effect on cost, for much fewer of the new machines need be purchased and kept on hand to do a given amount of work than would be required in the case of any models of the old apparatus. If used outside a container, a single generator can be connected, complete its operation, be disconnected, opened, washed out in a bucket of water, be recharged and ready for another operation within five minutes.

"One small generator could thus disinfect a dozen bags of clothing per hour. If bags improvised from soldiers' ponchos are used, each of which will hold the outfit of three men, one of these little machines will disinfect or destroy insect life on the clothing of an entire battalion of 500 men between dawn and dusk. It will deliver gas to the disinfecting bags as fast as a man could put the necessary articles into these disinfecting bags and seal them up.

"The conclusions reached by about fifty experiments, including over 200 cultures, are that, using 100 cc. of formalin in the apparatus here exhibited as suitable for disinfection in the field, sterilization of bedding and clothing may habitually be relied upon to be accomplished in twenty minutes, and, by increasing the amount and hence relative strength of the gas, there is every reason to believe that this brief time factor may readily be reduced to fifteen minutes or even lower, if thought desirable. Articles soiled with feces will, other things being equal, require a time exposure of two or three times as long.

"The penetrative powers of formaldehyd being slight under ordinary conditions, it has been commonly looked upon as uncertain for other than surface disinfection. Clothing, to be disinfected, is recommended to be well spread out and exposed to the gas for at least eight or ten hours under the best conditions, and preferably longer. By the new method this may be accomplished in one twenty-fifth, or less, of the time heretofore required, or with, say, 4 to 2 percent of the time exposure heretofore found to be necessary. This tremendous saving of time has many obvious advantages not only for disinfection in the field, but for that in civil life.

"DESTRUCTION OF INSECT PARASITES.

"It is well known that formaldehyd gas, as heretofore applied, is practically innocuous to insect life. This is the result of their exposure to a large volume of air, which necessarily can contain only a very small proportion of formaldehyd. But this gas is very fatal to insect life if strong enough, hot enough, and moist enough, and the new apparatus, which is so promptly effective against bacterial life, is even more potent against insects. Hence the use of hydrocyanic acid gas, or of sulphur dioxid, for the use of both of which this new apparatus is adapted if desired, becomes quite unnecessary.

"Especially with the collapsible container, the resulting mixture to which the insects are exposed contains a very small proportion of air in itself, with probably insufficient oxygen long to support life, and a very large proportion of formaldehyd, which directly attacks and combines with cellular protoplasm.

"With the new apparatus and collapsible container, bedbugs, flies, ants, roaches, water bugs, etc., are practically always killed by as short an exposure as eight minutes, while an exposure of twice that length would make assurance doubly sure and still mean only a trifling time necessary for insect destruction. Vermin on garments and bedding can thus be destroyed while the owner waits.

"No other apparatus and method using formaldehyd will destroy insect parasites, and the ability of the new machine promptly to kill every noxious insect on clothing and bedding, while destroying all bacterial life, places it in a class by itself and opens up a wide field of usefulness in the destruction of insect parasites in camp and garrison, on shipboard, in board of health work, and the unending struggle for the control of vermin in hospitals, dispensaries, jails, asylums, lodging houses, and the like."

When in Doubt, Get a Doctor.

A man has been charged in London with manslaughter for causing the death of his daughter, aged 7, by not procuring medical aid. His defense was that he left the case to a Christian Science woman. The judge ruled that to convict, the neglect must be wilful to be an offense. If the man knew the child was dying of diphtheria, he deserved punishment—scientist or not. If he were too stupid to see she was dangerously ill, they did not convict of criminality for pure stupidity. The jury found him not guilty, and the judge advised him for the future when he was in doubt to send for a doctor.

The MODERN HOSPITAL

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Hospitals and the Reform of Medical Teaching.

A late issue of *Science* (July 11, 1913), contains a lengthy, able, and illuminating review by Professor Mall, of Baltimore, of the report of a royal commission appointed by the late Edward VII. of England on university education in London. It is the purpose of the writer to discuss only that portion of the report which relates to the reform of medical teaching in the wards of the hospital.

It is evident that far-reaching innovations are impending in the relations of the teaching staff of every hospital which provides clinical facilities in medicine and surgery both to the hospital and the school. In too many instances such clinical teaching has seemed to be a by product of the energies of the physician or surgeon, who was often engaged in a laborious private practice and was unable to give more than a modicum of time and attention to his hospital work. The feeling is now growing to be wellnigh universal that the position of the hospital ward in medicine and surgery is precisely like that of the laboratory in connection with teaching physiology, pathology, bacteriology, pharmacology, physicology chemistry, or anatomy. The medical and surgical wards require a skilled teacher and investigator equally with the special laboratories mentioned, and the physician or surgeon who is the head of such a department should receive an adequate salary, and devote his whole time and energies to the investigation and study of disease and its treatment in the wards under his control.

The first step in this reform in teaching was inaugurated in America when in some hospitals physicians and surgeons were appointed as chiefs of medical or surgical departments, with a continuous service throughout the whole year. This arrangement enabled the head of such departments to use the material at his disposal for medical teaching to better advantage, and gave opportunities for more definite work and better relations with students in ward rounds and in clinics. The custom seems to be extending in this country, as is indicated by the recent appointments of a surgeon and a physician to the Peter Bent Brigham Hospital in Boston, each with a continuous service and a definite responsibility for a proper use of it to teach students.

It is interesting to note that in the report of the London commission this question was considered in connection with the evidence of Abraham Flexner, of New York, who had studied the conditions of medical education in the United States, Germany, France, and Great Britain. Mr. Flexner contended that all university teaching should be given only by men who were actively and systematically engaged in the advancement of knowledge in the subjects which they teach. He maintained that in teaching medicine they should give their whole time to the problems of disease, and must become members, and controlling and directing members, of a group of men working together to a common end—a group in which subordinate members are selected with a view to the special knowledge required to aid and supplement that of the leading and directing mind. They must be able to devote their time to original research, which can be made with any prospect of the largest success only in a hospital. In the hospital ward alone can men do for medicine and surgery what is now done in the laboratory for physiology or any other laboratory subject.

His statements seem to have had much weight with the commission, which was clearly of the opinion that such service to medicine cannot be expected of men who are largely engaged in private practice. Proper teaching and the preparation for it would make too great a demand on their time to permit of outside duties. Successful clinical teaching of the highest character can be undertaken only by men whose main occupation is original research in their special branches of medicine. Even if such teaching has been done by exceptional general practitioners in the past, the growing complexity of medical science, in the

opinion of the commission, renders it increasingly difficult to accomplish it satisfactorily in the future.

Sir William Osler, of Oxford, and Friedrich von Müller, of Munich, also appeared before the commission, and in the main agreed with the conclusions of the commission, although not wholly in harmony with the views of Mr. Flexner.

The discussion of the subject seems to be complicated to an unnecessary degree by the proposal to prohibit such clinical teachers from engaging in consultation work or any form of outside practice. Such prohibition does not seem essential to the proper success of the plan to furnish full-time men with a continuous service to hospitals engaged in medical teaching, and the matter may be safely left to the discretion of individual hospital boards. It is sufficient to establish the principle that the time and best energies of the occupant of the headship of the department of medicine or of surgery belong to the hospital.

HENRY M. HURD.

Sanatorium Methods.

In our October issue a few words were said on the "Sanatorium's Purpose and Setting." Let us now supplement the views there set forth by some consideration of proper sanatorium methods. As we have stated before in these columns, a sanatorium is but a special type of hospital. Both the conventional hospital and the sanatorium purport to relieve or cure the sick, and to that end both must include and must be conducted by competent, highly trained physicians of the best modern type. A thoroughly equipped staff, then, is a *sine qua non* for a sanatorium. Without such a staff a sanatorium has no excuse for being, and in this brief article we assume such a staff, and deal with no other type of sanatorium. Let us consider a further word in support of this assumption—the need of a trained staff; it is needed because of the intricacy of the work to be done and for efficient cooperation in practice. All varieties of invalids—chronic, subacute, and acute—find their way to a sanatorium. For example, during six months of the present year there were treated in a well-known New York sanatorium *thirty* varieties of organic disease, roughly tabulated, besides *fifty-nine* unclassified cases, and a considerable group of functional nervous and mental disorders, the whole list (organic, 1,448, and functional, 319) showing a total of 1,767 cases. Were one to compare this list with the list of the ordinary city hospital, one would be impressed by the greater variety in the sanatorium list, by the greater intricacy of the diagnostic problems, and by the resources of treatment demanded. Such a sanatorium clinic has been described, indeed—perhaps not inaptly—as a "clearing-house for medical failures." The routine cases of an ordinary hospital clinic are fairly obvious of diagnosis, and their treatment, whether medical or surgical, is largely routine. The cases seeking a proper sanatorium, on the other hand, are largely those in which routine treatment has failed. They are often described as the opprobrium of medicine, as undesirable cases (and by other terms less elegant), because routine practice shrinks from defeat and from the unexpected. Routine practice, in its hurried daily round, has little leisure for the study of problems. To the sanatorium, then, these failures and problems come flocking, as they have always flocked from the days of the ancients.

On another page of this issue Dr. John M. Swan, under the title "Ideal Sanatorium Administration," deals with this subject. His paper is suggestive and is abundantly worth reading, but we believe that there is a certain feature of modern sanatorium practice to which he does not attach proper weight—namely, the advantages of cooperation in practice by a group of trained men working in constant harmony. Formerly chronic invalids were truly an opprobrium, and were sent to sanatoriums to get them out of the way, or to comfort and amuse them. But who today shall say what patient is "a chronic," and what one is incurable? To the solution of these problems of chronic disease the medical profession is turning today with new and increasing interest, and our best minds and resources are concentrating on these problems. Did space afford, it would be interesting to sum up and to discuss the most familiar groups even of chronic cases, and to point out the work now being done for their relief; the new understanding and increasingly intricate treatment of the various forms of heart disease; the apprehension and therapeusis of ductless gland disease; the significance of a faulty metabolism in joint diseases, and their infinite variety and treatment, and the wide and eager discussion of those ailments anciently the despair of practice—such as diabetes, gout, blood changes, lues, lesions of the central nervous system, gastric ulcer and cancer, visceral displacements, and obscure chronic affections of the lungs and bronchi, of the kidneys, the bladder, and the generative apparatus of both sexes. Such being the nature and difficulties of a modern sanatorium clinic, must we not view with concern any proposition which aims, or seems to aim, at the ancient methods of *routine* physical therapy? Better were a voiceless inaction, or prayer to the Olympians themselves. However, we do not understand that attitude to be the necessary outcome

of such a sanatorium policy as is advocated by Dr. Swan. He, too, recognizes the value of trained specialists, though he lays less stress than do we on the value of coordinated and concentrated attack on disease. This is a matter of wide importance, and we believe its interest justifies us in continuing the discussion in our next issue.

JAMES G. MUMFORD.

The Per-Capita Cost.

In the September number of the Modern Hospital appeared an article by Dr. A. J. Ochsner which gives some very interesting statistics concerning the growth of the hospital movement. His interpretation of the per-capita cost seems to me to call for correction, not alone because he is in error, but because misunderstanding or misinterpretation of the per-capita cost is so frequent. We have another example of similar misinterpretation in Dr. Samuel Lambert's article appearing in the September number.

Dr. Ochsner says:

"What has been said regarding the original cost of construction applies to a still greater extent to the question of maintenance, because this expense never ceases. As an illustration, we need but take two of the best known hospitals in this country. In one of these the actual cost of maintaining a bed is slightly less than $1 per day, while in the other it is $3.30 per day. The difference, then, per bed for the year would be $839.50. Applying this difference to each one of the one million beds which are required in this country, and you would have wasted the stupendous sum of $839,500,000 per year, a sum so vast that one can hardly grasp it. If we do this year after year, it must be apparent that the waste would be sufficient to bankrupt any community."

It is apparent that he either says something which he does not mean, or is entirely wrong in his deductions. The statement certainly is incorrect. He assumes that any hospital costing more than $1.00 per day per patient is wasting money. There is no such standard.

The per-capita cost for 1912 for the Presbyterian Hospital, New York, was: private ward $7.57; public ward, $3.26; the New York Hospital, $2.59; the Boston City Hospital, $1.77; the Lakeside Hospital, Cleveland, $2.34; the Massachusetts General Hospital, $3.00; the Johns Hopkins Hospital, $3.19. Does Dr. Ochsner claim that any hospital could render, for $1.00 per day, such service as that rendered by any one of these institutions? It cannot be done. Yet that is what Dr. Ochsner implies; in fact, he implies that such an institution as the Massachusetts General Hospital wasted $2.00 per day per patient; or the New York Hospital $1.59 per day, or the Boston City 77 cents per day. I think Dr. Ochsner did not fully appreciate what his statement implied.

Dr. Lambert, in the article referred to above, says:

"The best test of successful hospital administration is to be found in the figure representing the average daily cost per patient per day, and the permanent reduction of all fixed charges is the essential element in economic administration."

Apparently, Dr. Lambert means that a low per-capita cost is the best indication of successful administration. Who shall say what is low and what is high, except by comparison? And of what value is the comparison unless one is thoroughly familiar with all of the factors which influence the per-capita cost. The per-capita cost statement of itself means nothing, except so far as it relates to the specific institution the cost of which is stated.

In order to compare the per-capita cost of two institutions, one must know whether both institutions are doing the same kind of work, whether both are acute or chronic, whether both have private services, maintain the same laboratory equipment, furnish the same grade and amount of nursing, maintain ambulances, social service departments, and all of the other numerous essentials to the modern hospital. One must also know whether the cost is figured on the same basis. Some hospitals figure on the basis of gross expenses, others on the net expenses; some include the out-patient department, others do not include it. In fact, there are very few hospitals which figure alike. Unless one is prepared to interpret the figures in the light of such differences, the per-capita cost shows nothing of value, either with regard to economy of administration or efficiency of service.

I have gone into this question at some length because when men of such standing as Doctors Ochsner and Lambert are guilty of such erroneous statements, it seems desirable that those statements be corrected. Hospital administration presents many problems which have taxed the abilities of many able men devoting their entire time to it. It is not a subject which lends itself to superficial analysis.

WINFORD SMITH.

The Doctor's Part in Hospital Management.

It is a common mental attitude of the layman to hold the medical staff of a hospital responsible for lapses in administration. This is due, of course, to the fact that the layman sees the hospital and the doctor as the two parts of a single picture. Not being privileged to look behind the scenes, so to speak, the layman assumes the existence of a state of things that he thinks ought to exist. The patient is sent or brought to the hospital by

his own doctor, whom he knows to be a member of the institution's faculty or staff; he knows he is in the hospital so that his doctor may have the benefit of the hospital's facilities for the treatment of the disease; he knows also that if the doctor wrote a prescription to be filled at the drug store, the written directions would be carried out to the last infinite atom. Then, why isn't the same thing true of the doctor's orders in the hospital? The layman cannot see any difference.

Before we make our point, let us picture another situation. There is a well-recognized and growing disposition on the part of trustees and administrators to plan and execute the affairs of their hospitals without very much reference to the doctors and their wants. If one seeks the reason for this attitude, he is told that the doctors cannot agree—that the calling in of the medical staff to discuss a problem is the signal for a clash and an interminable controversy, and generally for a display of selfishness and self-interest.

Medical men are disposed to resent this attitude on the part of their boards and the administrators, and their resentment is reasonable and justified. Trustees and administrators will agree to this proposition, and they will agree, with practicable unanimity, that the doctors should have very much to say about the conduct of the hospital, especially about those parts of it that refer intimately to the care of patients.

The purpose of this comment is to place the blame for this most undesirable state of affairs precisely where it belongs—on the shoulders of the doctors themselves; not primarily perhaps, but secondarily and principally. Primarily, it has been the custom of hospital boards to create top-heavy staffs. There will be one member so dominant, and usually so domineering, that everything in the institution is warped in his interest. Then all the other men can do is to protest and sulk; the strong one gets what he wants by the very force with which he goes after it. So far the fault lies with the board of trustees for building a machine whose parts do not coordinate. But boards of trustees are notoriously uninformed concerning hospital problems, and "a little learning is a dangerous thing," here as elsewhere. On the contrary, it is the daily life of the doctor to work with hospital problems and to evaluate them. Why cannot the members of the staff nullify the mistakes of the trustees, if any have been made, by creating and maintaining a staff machine, a coordinating, harmonious, ball-bearing machine, every one of whose parts fit exactly and work smoothly. To do this, so little is necessary. If each member will give a little here and there for the good of all, if the members will talk over things in a broad spirit of common helpfulness, wonders can be accomplished.

Every staff should have an organization, with officers and committees, and these committees should go at the hospital problems with a view to mastering them, so that, when it comes to a conference with the lay board, there will be one opinion and one solution. If it is necessary to fight things out in order to arrive at settlements, let the staff meet behind closed doors, with an agreement beforehand that the majority shall rule; meet away from the hospital if necessary, but come before the board with a common purpose and present a united front. If there be a recalcitrant—the strong man—let the board know definitely that the staff is unanimous, except the one. The board may decide with the strong one once, or even twice, but it will not require many meetings before even the most obtuse board finds out that there is a disturbing element, and will either straighten him out or let him out.

Organization and team work on the part of the medical staff will place any hospital's activities under the intelligent trained direction of the medical men in any hospital in this country. But wisdom, unselfishness, and common sense must be the handmaidens of a common purpose if success is to be attained.

JOHN A. HORNSBY.

Announcement of Valuable Papers.

With the December issue of THE MODERN HOSPITAL we shall begin the publication of two series of papers that we believe will be of great value to the hospital people. There will be eight papers in each series, dealing with the most intimate details of hospital administration. One of these series will be prepared at Johns Hopkins Hospital by Dr. Winford Smith and his associates, will cover the details of administration of that institution, and will be applicable to large hospitals.

The other series will be prepared by Miss Elizabeth A. Greener, superintendent of the Hackley Hospital, Muskegon, Mich., will cover the details of administration of that hospital, and will be applicable to the smaller institutions.

These two hospitals were selected for excellent reasons for the presentation of these series of articles. It has been no small task on the part of the editors to induce the heads of these two hospitals to write these papers. In both cases the superintendents felt that they were being asked to pose as examples of proper housekeeping, and it may be stated that serious arguments were necessary to convince Dr. Smith and Miss Greener that this was not the case.

We can all very well understand why Johns Hopkins Hospital would be chosen. The Hackley Hospital, of Muskegon, is not quite so well known, and a few words may be necessary. The Hackley Hospital is an institution of 60 beds. The money for the building and a considerable endowment was given by the late Colonel Chas. H. Hackley, and the hospital is a well-built institution of excellent architecture, fine appearance, and is sufficiently endowed to enable its management to carry out plans, both scientific and domestic, looking to the best interests of patients.

One of the papers in each series is intended to take up the janitor service and house-cleaning arrangements. The intention is to tell just how the house is cleaned—whether by maids or men, whether in groups or in an individual way—each maid and each houseman having a particular part of the institution to take care of and being held responsible for that part.

The implements for cleaning the house are of importance, and will be touched on; the soaps used and whether cold or hot water; what is done about the carpets and rugs; how the linoleums are treated; how the marbles and metal work are polished; how the floors are kept clean; what is done to the walls, woodwork, stair rails, and so on into the very minutest details of house cleaning.

Another article will take up the question of food; who buys the food and where it is bought, and in what quantities and upon what principles various foods are purchased; how the foods are delivered to the institution, how they are checked into the store room, and how the distribution is effected; the handling of the food from the time it leaves the store room until it gets to the patient. This will, of course, take up the question of dumb waiters, food trucks, food containers, trays, and all the various devices employed in connection with food service.

It is intended that another paper will take up the admission rooms of the hospital; how patients are admitted, who admits them, what is done for them in the admission rooms, what routine technical practices are employed in the admission rooms, what laboratory work is done on patients intended to be admitted; do patients go to observation rooms or wards, and under what conditions in each case, and why? what is done for them immediately on their arrival at their beds, and who does it, and when? when does the nursing chart begin, and how, and by whom? when is the first medical examination made? by whom?

Another paper will take up the surgical department of the hospital. The patient will be taken immediately after it is decided to perform a surgical operation; what is done for him in the way of preparation, and when? by whom is he taken to the operating suite, and how? what happens to him after he gets there? does the routine of the hospital prescribe a technical preparation after the patient arrives in the operating suite, or has he already been prepared? who performs these preparatory offices? how does he get to the operating room? is he already anesthetized, or is the anesthetic begun in the operating room itself? after the operation is over, what is done for the patient in a nursing way? is he taken to a recovery room adjoining the surgical suite or is he removed at once to his bed in the ward, and, in either event, what preparations are made for starting him on the journey? who accompanies him back to bed? do the nurses take him, or an orderly, or a house physician? who puts him into bed? who remains with him until after he wakes from the anesthetic?

The other papers in the series will cover quite as important features of hospital administration as these. One of the series will concern itself with the large hospitals and the other with the small hospitals; and again we say that we are extremely gratified to be able to present these series of papers. No doubt many of us will have our own distinct ways of doing things, but it will not hurt any of us to know just how the other hospital is doing things, and there should be valuable hints for all.

In the December issue we shall also begin the publication of a series of papers on the equipment of various classes of hospitals—the general hospital, the tuberculosis hospital, the children's hospital, the maternity hospital, the hospital for infectious diseases. There will be five of these papers, one for each month, and it may be said frankly that it is intended that these papers shall be rather lists of equipment than anything else.

We all know what brain-wearing work it is to make up lists for the complete equipment of a new hospital or a new pavilion or department. The lists to be published are intended as mere hints or reminders for those interested. In December we will have the general hospital. In the January number we will give the complete equipment of a children's hospital. In February we will equip a very small private hospital; in March we will take the contagious disease, the maternity and the tuberculosis hospital; these three will be taken together because we will have to include only the items of equipment that are special to each of these institutions, and not the items that we have already covered in one or other of the previous lists.

Another Political Investigation.

The investigation of the city hospital of Cleveland, which has been under way for some weeks, has come to an end. The conditions that preceded the investigation were due to the appointment of a nonmedical man, a social worker, Mr. Howell Wright, as superintendent, vice Dr. J. D. McAfee, removed by the mayor.

Two of the conditions under which Mr. Wright accepted the post were: 1, that he, as representative of the city, should run the hospital without political interference; 2, that he should be the sole authority, subject only to the approval of the mayor, and that he should have the right to hire and discharge anyone employed in the city hospitals in any capacity.

Charges were recently brought against Mr. Wright's administration, largely growing out of an entire new set of rules, the chief feature of which was that the superintendent should have general supervision over the medical staff and the house staff. Charges were also made of poor food and neglect.

At the end of the investigation a verdict was submitted to the council exonerating the superintendent on all the counts. Unfortunately, the majority report was submitted by democratic members of the committee and a minority report by the one republican member.

One of the findings of the minority was that the superintendent should be a medical man, trained in hospital administration; another was that the superintendent should live in the hospital; and a third was that there should be divided authority, certain functions to be performed by the medical staff, certain others by a business administration, and still others by a medical superintendent.

We do not purpose to discuss the first topic; as a general principle, there can be no argument; a trained hospital man who has had a medical education is the ideal superintendent for a large municipal institution. But Mayor Baker found a social service worker with ideals and with a capacity for business, who had the wisdom at the outset to select a medical man for his assistant. It will be interesting to watch Mr. Wright and his method of handling the multiphase problems of health—mental, moral, and physical—and the social service and sociology in which hospitals of today are so inextricably enmeshed.

As for the superintendent living in the hospital, that is nonsense. Hospital administration is a business, one full of petty annoyances and perplexing problems. Would the owners of a great commercial business ask their manager to sleep in the next room to his office at the plant? Or would the owner of a great newspaper ask his managing editor to live in the publication office merely because work is being done there during the whole twenty-four hours? No wonder that so many hospital superintendents either wear out quickly or grow so callous to petty abuses and details of mismanagement that "investigations" are necessary. And no wonder that so many of them finally become routine clerks. There are big things before the modern superintendent of a big municipal hospital. How would it do to help him a little by giving him at least as much time off the job as we would give one who had no responsibility to carry and no thinking to do? It is his business to leave the job in competent hands for the routine things that occur in the night.

As to divided authority, why does the minority want a medical man with hospital training except that he may know all the functions of the hospital, and be able to make all the parts coordinate? Divided authority invites disaster. It is too bad that Cleveland's investigation had to come with, and as part of, a municipal election.

Mr. Wright should be given a fair chance, and, if he can run a large municipal hospital satisfactorily, Cleveland had better hold him, as men of necessary qualifications for such a job cannot be picked up like posies, by the wayside. Also let Cleveland remember that it is trying something brand new in placing a social service worker at the head of so special a piece of machinery as a modern hospital; and the whole country is interested in the outcome.

Ether Day at the Massachusetts General.

October 16, 1846, the first general anesthetic was administered in the Massachusetts General Hospital. Ether was used to full anesthesia for the first time on a human being. The operation and the anesthesia were both successful.

Ether day has become an annual celebration in that famous old institution. Each year some great man of medicine delivers an oration One year it was Wm. H. Welch, the acknowledged nestor of pathology in this country. Simon Flexner, Crile, Mayo, and Elliott were the orators on other occasions.

This year it is Milton J. Rosenau, formerly of the hygienic laboratory of the Public Health Department of the Government at Washington, now professor of preventive medicine and hygiene at Harvard Medical School. Dr. Rosenau will speak of "The Problems and Progress in Preventive Medicine."

The present generation can hardly compare up

in the imagination the conditions that existed before ether came. Perhaps a little story will emphasize the point:

The famous Dudley of Kentucky was about to remove a tumor (a tumor was just a tumor in those days) from the mouth of a tough old sinner.

"What are those straps for, Doctor?" he asked, as a mass of harness was flung down before the operating table.

"I'll have to tie you, Colonel," was the laconic reply. "The pain will be so great you won't be able to hold still."

"How long will it take, Doctor?"

"About three minutes."

"Well, don't tie me, Doctor. I'll hold still. I can stand hell fire for three minutes."

The Colonel did hold still, but after the ordeal was over he drew a long breath and said, "Next time I'll let you tie me, Doctor."

Commitment of the Insane.

Recently enacted laws in the Philippines regarding the commitment of the insane for institutional care might well be copied for older and more settled communities. Briefly, the law is that any person suspected of being insane may be brought before a medical man for examination. If the physician adjudges the patient to be insane to the point of requiring institutional care, he may commit to the nearest hospital capable of giving that care. In case the patient or his family object to such commitment, one of the government health officers must be called in. If there is still protest by the patient or family, the case must go to the nearest court of first instance, and there the case is tried just as in this country. The main point is that there is no public trial and no humiliating display except in those cases in dispute, and then the patient obtains the benefit of a legal hearing.

Hydrotherapy as a Curative Agent.

In another column will be found a paper on "Hydrotherapy in the Treatment of the Insane." This paper will be found of very great interest to physicians, hospital administrators, nurses, and the more intelligent help in institutions, who must learn to use this important agent in the cure of disease.

While Dr. O'Malley has addressed herself more especially to the large institutions and to those having care of the insane and the mentally disturbed in psychopathic wards, there are many profitable lessons for the general practitioner and for the administrator of the small hospital. It is common knowledge that the medical profession is woefully ignorant concerning the modern, scientific employment of water as a curative agent, and that most of its members still view hydrotherapy as another term for "mental suggestion," if indeed many of them do not use the harsher terms of "charlatanry" and "quackery." In consequence, many fine plants in hospitals lie idle, or nearly so, and, if the hospital administrator should have the temerity to insist upon its use by the staff, he is given permission to use it in any way he sees fit —for the charity patients.

In nearly every hospital in the country patients are daily put in restraint, or are quieted with harmful drugs, when a very simple pack, intelligently employed, or a continuous bath, improvised in connection with an ordinary bath tub, would have a far better effect at far less cost to everybody concerned, and at the same time do the patient a great deal of good.

Dr. O'Malley's paper is interesting in every paragraph, and will be profitable to all who read it.

Professional Money Raisers.

It is coming to be a practice in many communities to employ professional campaign managers to direct local effort in the raising of money for hospital purposes. Efficiency well employed is an excellent thing, and undoubtedly men who have made a study of methods by which approaches to the pocketbook of the public can be successfully made will get more money than otherwise will be raised; but getting money is not the only thing to be thought of, and a stranger visiting a community for the specific purpose of raising a stated amount in a short, hurry-up campaign will be tempted to make pledges that the local people cannot fulfill after the excitement has died away. Permanent support, depending on good-will, is to be seriously considered.

A great many people in every community can be found who are more than willing to give to a hospital if an announcement be made in advance that some particular ideal of theirs is to be attained. Those in authority should see to it that such pledges or even implied promises are in keeping with their own well-thought-out intentions. Otherwise there are sure to be disappointments, followed by withdrawal of support, and perhaps active opposition.

Dr. Elliott Washburn, of Taunton, Mass., has been appointed superintendent of the State Sanatorium for Tuberculosis at Rutland. Dr. P. Challis Bartlett, former superintendent, had resigned to enter private practice in Boston.

The Wesson Memorial Hospital, Springfield, Mass., has thrown its doors open to the patients of "any reputable physician." It has 70 beds, only about half of which had been filled by its regular staff.

EDITORIAL COMMENT.

If some doctors thought a little more about their hospital and for it, and a little less about their own temporary advantage, the hospital would mean more to them in the long run, serve their real interests far better, all the patients would get better service, and hospital superintendents would be better insurance risks.

Miss Elizabeth L. Lewis, who died recently in Philadelphia, left $10,000 to the Society for the Prevention of Cruelty to Animals and $5,000 to the Society to Protect Children from Cruelty. One might preach with the eloquence of a Knox or a Calvin or a Luther, and still be able to add nothing to the above simple statement.

The doctors have recently resurrected Napoleon to make a diagnosis of the disease from which he died. They have decided it was hypopituitarism or dystrophia-adiposogenitalis. The little Corsican was a reasonably alert individual at one stage of the proceedings, and passably interested in things that were happening about him, but it may fairly be questioned whether he will become excited by these latest efforts to keep him alive, even by means of a down-to-date diagnosis. However, now that we know what ailed him, let some of our brain-surgery brothers proceed with the clinic. The operation will not materially hurt Napoleon, and may help some of the rest of us.

The question is being discussed in England again, whether it will pay hospitals to own their own farms for the production of milk, eggs, and vegetables. Milk, eggs, and all other farm products have gone so high in England, and hospital revenues have gone so low under the new dispensation, that very close economies must be practiced. There are arguments both ways on the farm-owning proposition, and in England as elsewhere probably local conditions will have to settle the matter.

Some day in the not far-distant future the economical question of farm-owning by hospitals will be discussed in a symposium in THE MODERN HOSPITAL. It is a topic full of interest, especially to rural hospitals and institutions caring for large numbers of patients partly able to participate in the farm work.

For the benefit of those who have lately expressed a doubt of the value of joint meetings of hospital administrators and members of the medical profession—as, for instance, in the hospital section of the American Medical Association—it may be stated that the Boston Psychopathic Hospital has undertaken a serious study of the problem of the care of delirious patients in general hospitals, especially the cases of the delirium tremens class.

Last June at the Minneapolis meeting there was a spirited and eager discussion of this subject, brought out in a paper by Dr. E. E. Southard, director of the Boston Psychopathic Hospital, on "The Psychopathic Hospital Idea." The question at issue was how to handle cases of delirium in the general hospital without recourse to mechanical restraint, many times coupled with the administration of sedative and harmful drugs.

The only result of the discussion was a very great emphasis on the fact that this is a serious problem in hospital administration. Even after Dr. Southard's plea for the employment of hydrotherapy in one or other of its various forms, and for the other well-recognized therapeutic agents of the psychiatrists, it was agreed that oftentimes these cases, either for their own safety or in the interest of other patients, had to be subjected to physical restraint.

Soon after Dr. Southard returned home from the meeting the first conference of the staff of the Psychopathic Hospital was held, on the occasion of the first anniversary of its opening. In the course of the meeting Dr. Southard, discussing work for the future, made the following statement:

> "I will say that at Minneapolis, in the hospital section of the American Medical Association, there was long and eager discussion of the plight of delirium treatment in American hospitals, following some remarks in my paper read there last week on 'The Psychopathic Hospital Idea.' We intend to call it our special mission during the coming year to work intensively on the topic of delirium and its treatment, and perhaps we shall be able to bring something about it of interest to our next annual conference."

If the incidence of this discussion in the hospital section shall eventuate in the settlement of this very grave hospital problem, the existence of that agency for bringing about conferences between medical men and hospital administrators will have been more than justified, if that is the only thing it ever does.

Dr. Robt. B. Middlebrook, for many years night superintendent of the Kansas City General Hospital, has resigned.

Drs. Hasbrouck De Lameter and George P. Pipkin have been placed in charge of the new isolation hospital at Kansas City, Mo.

In a ten-day campaign, St. Joseph's Sanatorium, of Aurora, Ill., raised $100,000 for extensions to the present buildings. Construction will begin in the spring.

Arrangement of the New Munich-Schwabing Hospital.[1]

The first preliminary steps for the building of a third hospital in the north end of the city of Munich were taken in 1900. A commission consisting of members of the City Council, of physicians, and administration and building experts were given the task of visiting many institutions for the care of sick from Davos to Copenhagen and from Vienna to Cologne, and to submit recommendations for the new building based on their observations and their experiences at home.

The city of Munich possessed, in addition to the hospital on the left bank of the Isar, which is now about one hundred years old, another hospital on the right bank of the Isar built in the 60's of the last century and to which additional buildings were added from time to time. There are, therefore, buildings of the one-story barrack type, lighted on two sides, with 34 beds in a ward, and also several three-story corridor buildings—one with large wards, the other with average size wards and small rooms—so that the commission had the opportunity of basing their recommendations on the experiences in this variety of buildings.

Munich lies about 1,700 feet above sea level, has considerable variation of temperature between night and day; hot, sunny days are followed by cool nights, storm and wind are severe, and snowfall is considerable. Consequently it was best to decide on a compact plan—that is, buildings having several stories, which would be wind swept and offer large surfaces to lighting and sunlight—rather than decide on low buildings scattered over a considerable area of ground.

The following was decided upon: Three-story buildings, each containing 150 beds, for the surgical and medical sections. The central bay of each building is on the corridor system, with smaller wards of 1, 2, 4, and 6 beds. The end wings are designed on the pavilion style, lighted on three sides, and contain 12 bed wards and a cubic content of 40 cubic meters per bed, or about 1,400 cubic feet. Wards of 20 and 30 beds were considered too large to make a proper separation in the age and individuality of the patients, to properly separate the very sick, dying, restless, and objectionable patients, and to afford the others proper rest.

The wards were built toward the south to obtain ample light and sun in the winter. The corridors, which have an unusual number of windows, were built toward the north, which also provides ventilating them from east to west.

In order to afford the greatest quiet and comfort, a large number of auxiliary rooms have been provided for examination, dressing, baths, separate toilets for patients and attendants, large day rooms for convalescents, station rooms for the work of the attendants, serving rooms, sculleries, linen rooms, apparatus for the use of the patients, for soiled linen, for garbage and other refuse cans, heated and ventilated cabinets for scrubbing and cleaning utensils.

Each of the buildings contains a receiving bath at the entrance. The arriving patient is bathed and receives hospital clothing. The clothes are inspected, disinfected if necessary, and hung in a clothes bag in the clothing store room. Rooms are provided for temporarily isolating a suspicious case.

Each of these buildings contains 150 beds, is a complete hospital surrounded on three sides by wide lawns and may be conducted as a separate, isolated building, without connection to other buildings if such isolation becomes necessary. The heating of the large buildings is done by mechanically circulated hot water heating. The temperature is kept low. There is no overheating of the rooms and no burning of dust. The pipes and radiators do not rise to a temperature which will burn helpless patients. The windows of the wards are large, high, and have a transom at the top. Fresh air is supplied by mechanical ventilation when the windows cannot be kept open. The fresh air is taken into the ducts through kiosks in the garden at some distance from the building. It is tempered and moistened in the basement and cooled by cold water during the summer. A mechanical exhaust system was not installed, but separate exhaust ducts have been built, which end separately above the roof to avoid the possibility of a short circuit or return draft by which foul air could be returned into the rooms or wards.

Six buildings of this kind serve for the care of surgical and medical patients, and are built in a double row—three for men, one back of another, and three for women.

The central plant, which has an operating building, bath house, and arrangements for physical therapy, stands in the middle of these two rows, of which the one on the west is for men and the one on the east for women, so that there is a positive separation of sexes. The male and female sections have separate buildings for all purposes and separate gardens. The buildings of each row—i. e., for men and for women—are connected by covered heated passageways, connecting them with the operating building, which contains separate rooms for septic and aseptic operations, with the necessary auxiliary rooms and special rooms for x-ray examination and for the sterilizing of dressings and operating linen.

Mechanical ventilation was not installed in the operating building on account of danger from dust in the ducts and the possible back draft of infection in the operating rooms. The transportation of the injured or recently operated patients from the operating rooms to the wards takes place in complete protection against chilling, a caution absolutely necessary to avoid danger of post-operative pneumonia, and such does not appear in this institution. Medical patients are also taken to the central bath house in similar passageways.

To insure transportation of the sick and circulation of attendants, doctors, and visitors under proper conditions, covered connections have been built, with numerous windows and arrangements for ventilation, connecting the six large buildings with the administration section, drug store, sisters' house, and kitchen, and are used also for the transportation of patients, food, linen, etc., being thoroughly protected by day and night from wind, water, rain, and snow.

For hygienic reasons the connecting passages were so built that they passed by the buildings and did not intersect any of the buildings in the middle or at an end, and the hospital buildings are connected to the main covered passageways by short connections. By this arrangement it has been made possible to cut off the separate buildings in the event of an epidemic, and conduct these buildings through the garden entrances. The connecting passageways are low, so that they do not affect the lighting and ventilation of the hospital buildings. They serve only for passage and the transportation of clean articles. Corpses, soiled linen, garbage, and waste are transported in the underground tunnels, and are thereby not in view and cannot come in contact with patients or anything which is intended for the use of patients.

[1]Translated and interpreted by Richard E. Schmidt, Chicago, from Zeitschrift für Krankenanstalten.

To facilitate circulation, the main floors of the hospitals, the administration section, drug store, operating building, bath house, and kitchen were built on the same elevation, so that the transportation of patients or injured that may be brought into the institution, or the transportation of food, clean linen, and heavy articles, may be done by means of carts on one level, and elevated to the upper stories by elevators.

Other buildings intended for the housing of patients suffering with contagious diseases and for peculiar sicknesses, such as skin and genitourinary cases, are taken care of in separate buildings, away from the connecting passageways. A building for smallpox, cholera, etc., was built at the northeast end, and another for scarlet fever, diphtheria, etc., is also to be built. These are two-story buildings, each containing four separate units and each with a separate entrance, but so arranged that two units may be united for common use.

The waste bath water and scrub water of each of these buildings for contagious diseases is conducted into specially constructed devices set up in the cellars, where it will be sterilized before it is permitted to run into the river. Dejections of contagious diseased patients will also be sterilized, and bath water is disinfected chemically before it is allowed to pass into the drains.

Plans are being prepared for a children's hospital. The whole of the ground area of the institution has not been used for buildings, and there is ample room for temporary buildings in the event of an epidemic.

Nursing and housekeeping are performed by sisters of the order of St. Vincent de Paul, and a separate convent-like building has been built for them, so that the sisters are in the building only during service, where they are afforded ample rooms for their entertainment and for hygienic living.

The majority of the interns live in the buildings along the south side of the grounds, and a few live in the upper stories of the hospital and buildings, which are at some distance from the administration building. Rooms for interns are provided in the special buildings for infectious diseases, where they can be used as required. As a rule, each intern has two rooms. (I doubt if they have interns in the same sense as in our hospitals.—Translator.)

Water for drinking, cleansing, bath, and garden sprinkling purposes is obtained from the city supply. Water for laundry and steam heating purposes is pumped from wells on the ground. Buildings for washing, disinfecting, power, and heat are placed along the north edge of the property, to separate them as much as possible from the hospital buildings, and are so placed that the prevailing winds do not carry smoke and air from them to the hospital buildings. Only the kitchen was placed close to the hospitals to facilitate the transportation of food to the patient.

The disinfecting rooms and a laundry have been so arranged that linen will travel through the rooms in such a way that clean pieces will not pass through rooms through which soiled pieces have passed.

The treatment of patients is based on a scientific foundation and is supported by results of research, and consequently a large library and an extensive equipment of scientific apparatus have been provided. The smaller buildings have laboratories of moderate size for chemical and microscopical examination. The center of the scientific activity is in the dissecting room of the pathological building. Post-mortem examinations are conducted here to give the physician an opportunity to determine the correctness of his diagnosis and to teach him how he may arrive at subsequent conclusions from these observations for the benefit of the sick.

The religious interests of the hospital population are taken care of by a Catholic church and a Protestant prayer room, and a Kosher kitchen is provided for the Israelites. The buildings intended for the care of the sick are rigidly separated from the buildings for administration, drug store, service, and living quarters, and in the construction of all buildings solidity, durability, simplicity of execution, and practical economy were practiced and unnecessary ornament and expense were avoided. There is no doubt that an abundance of light, well-illuminated and large rooms, absolute cleanliness, ease of supervision, and safety will further the object of the institution—namely, the treatment of the sick—and assist the attainment of this object in the most practical manner. The gathering of a large number of sick and an accumulation of articles used by them may, without proper attention, be a great and threatening danger of sickness to the well inhabitants of the institution.

The new building was discussed at the thirty-second convention of the German Society of Public Hospitals in Bremen on September 19, 1907, and the three-story hospital buildings and the connecting corridors were criticised. The convention was of the opinion that only two-story buildings should be built and that connecting corridors are unnecessary, but from our experience with the older hospital in Munich and in the past three years in the new one, we believe that three-story buildings facilitate the care of the sick in a humane manner without any drawbacks or other objections. Small wards and a sufficient number of auxiliary rooms carefully separated from the wards afford the greatest advantage for the care of the sick, and a special advantage is presented in buildings of the corridor plan. The covered passageways are a benefit both to the well and the sick.

Sea-Side Hospital Branches Out.

One of the splendid children's charities of this country is the Sea-Side Summer Hospital, conducted by St. John's Guild at New Dorp, Staten Island. For more than thirty years the Guild has been doing its work, growing a little each year. Now it announces that the summer service it has been rendering the sick poor children of New York City is to be continued through the winter, and hereafter the hospital is to be kept open all the year. To the regular service will be added, through the winter months, the care and treatment of convalescent mothers discharged from hospitals in the city before they are fully able to take up again their arduous household duties. The situation among the very poor of the city in this regard has been and still is a serious one. The new buildings of Sea-Side Hospital, opened this summer, will be used during the winter months to relieve it. It is also the purpose of the Guild to continue through the winter the treatment of orthopedic cases, heretofore so successfully carried on during the summer.

Sea-Side Hospital is the largest children's summer hospital in the country. During its long service it has been the means of saving the lives of many thousands of the sick children of the poor of New York, and this season alone more than 15,000 days' treatment have been given. Its service is unique in that it not only restores to health the sick baby, but cares for the mother and other children of the family during the time required for the complete recovery of the sick child.

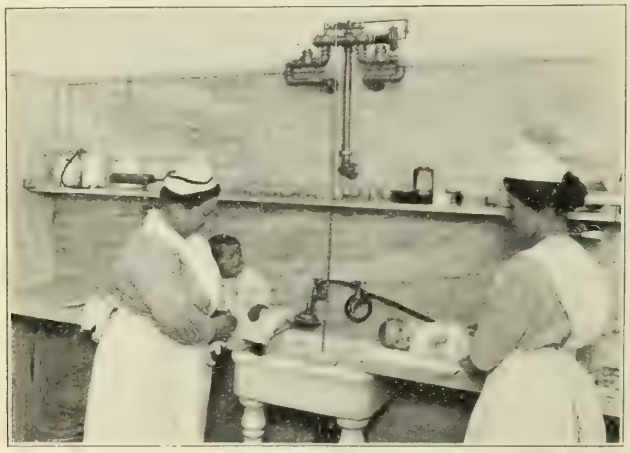
St. John's Guild was founded in 1866. In 1873 two

excursions were conducted by the Guild upon hired boats. In 1875 a floating hospital was purchased and equipped. In 1881 the Sea-Side Hospital was started, and the summer opened with four mothers and eight children as patients. During the season thirty-six mothers and sixty-seven children were cared for.

The hospital equipment today consists of twenty buildings, including eight large wards and four solariums for children and their mothers; an annex; a detached building, the Lewis Memorial Cottage, for very sick infants; an isolating building; nurses' quarters; servants' quarters; lodge; stable; power house, the latter containing a steam and electric light plant; and also a completely equipped laundry plant.

Front view of new hospital buildings of the Sea-Side Hospital building of St. John's Guild, New Dorp, Staten Island. The number of mothers, children, and babies being cared for in this institution on August 20th was 428. The total number admitted to date this season, 1,920, with an average stay per patient to date of 10.8 days.

The extent of the work of the Guild is partially shown by the fact that since the beginning of the several departments of work there have been cared for on the floating hospital "Emma Abbott" from 1875 to 1902, inclusive, 909,104 patients; on the floating hospital "Helen C. Juilliard" from 1899 to 1912, inclusive, 577,720 patients; at the Sea-Side Hospital from 1881 to 1912, inclusive, 51,913 patients, making a total of 1,538,737 mothers and children.



Irrigating room in new Sea-Side Hospital buildings of St. John's Guild at New Dorp, Staten Island.

There is only one requirement for admission to any of the hospitals of the Guild—sickness or an acutely depressed physical condition—and when either of these is evident the child is received into the hospitals without question and the very best medical skill is called upon to help the patient regain health. No child, however sick, is refused admittance. If, as is often the case, the chance of recovery is seemingly beyond hope, the condition is explained to the mother, and, if she is willing, the chance is taken and in many cases the child is made well. To this service has now been added for the winter months the care of mothers after childbirth until they are well and strong to take up again the duties of the home.

Admission to the hospitals of St. John's Guild is secured by tickets widely distributed through the Department of Health, hospitals, dispensaries, day nurseries, physicians, churches, and organizations which come in touch with the poor of the city. There are now over 1,500 of these distributing agencies throughout the city.

The officers of the Guild are Seymour L. Cromwell, president; W. W. Flannagan, first vice-president; Abraham Jacobi, M. D., second vice-president; John W. Weed, chairman executive committee; Mortimer M. Singer, secretary; Isaac N. Seligman, treasurer. The list of trustees includes John W. Weed, John T. Ijams, W. W. Flannagan, William Sherer, William H. Burr, Charles A. Moore, Isaac N. Seligman, John D. Crimmins, Abraham Jacobi, M. D., James A. Blanchard, William R. Corwine, Duff G. Maynard, Seymour L. Cromwell, Mortimer M. Singer, Edmond J. Curry, John W. Frothingham, Arthur Iselin, George Cromwell, Carleton Montgomery, Clinton H. Crane, Leeds Johnson, Alvah H. Doty, M. D., John C. Travis, Morgan M. Mann, John West Hornor, Jr. The general agent is Mr. S. Boyd Darling. The office of the Guild is at 103 Park avenue.

Committee for Important Work.

One of the important committees that Dr. Howell has announced his intention to appoint this year is one "To study the character, cost, and value of direct and indirect work for the prevention of disease now conducted by hospitals and dispensaries, to arrange in the order of their importance and practicability successive steps for the extension of such work, and to prepare methods for its financial support for its correlation with the similar work of other agencies, public and private."

This is a committee that was ordered created a year ago by a resolution introduced at Detroit by Dr. Goldwater. At that time Dr. Goldwater introduced the matter as follows, according to the language of the stenographic report:

"Dr. Goldwater: I want to offer a resolution which I shall take the liberty of explaining very briefly before presenting it. These meetings, during the last two days, have been very helpful and instructive to all of us, but I am sure that many feel that Dr. Emerson's failing to put in his appearance represents a distinct loss to the association. Doubtless we will have the benefit of Dr. Emerson's contribution at some future time. I am sure Dr. Emerson could have presented this subject to us in the lucid way which is characteristic of him. All of us, no doubt, are ready to see the very close relationship between preventive medicine and hospitals. Usually hospitals are designed chiefly, if not wholly, to take care of the sick, but in my mind it is utterly impossible to divorce the 'with sick people.' When, for instance, it happens to one, just as it has happened to me recently, that we receive in our hospital within three or four weeks six members of a single family coming in successively suffering from typhoid fever, we naturally ask ourselves whether we do our duty when we take care of these cases in that way; or whether, on the reception of these cases, we first make it a point to look into the condition whence these diseases came, with a view of preventing the same among the people of the home. We are all doing preventive work, whether we know it or not. When we establish maternity wards, when we bring into the hospital the mothers who are better taken care of there than at the home, we really are doing something in the way of preventive work. It is a physiological function, properly handled, but the admission to the hospital ought to be sanctioned as a preventive measure. It saves the mother and frequently the child. In our dispensary we find it impossible to do effective work without stepping aside out of our line into lines of preventive work. When

we see the same children coming back again and again, see the same recurrence of the disease, we think possibly it is a public duty and also a matter of economy on the part of the hospital itself to step outside of the province of the hospital and see what can be done toward preventing those children from coming into the hospital as often as they do. Those are just a few of the many ways in which we are being drawn into lines of preventive work. The question is frequently raised how far hospitals ought to go, to what extent they ought to organize their work in these various directions, whether they ought not to possibly supplement the work of the health department, which of course is distinctly preventive. When we receive a case of contagious disease and inform the health department, and they send investigators into the home of the patient and suitable preventive measures are taken, we are engaged actually in the prevention of disease. But the question is, how far ought we to go?

"For instance, in communities where the health department is sufficient, whether we ought to organize statistics, whether we ought not to present to the public more satisfactory measures that can be taken for the care of the community as a whole. These are some of the very many interesting questions which come up every day before the hospital administration. It is these ideas that led to the preparation of this resolution, with the sanction of a number of the members of the association:

"Resolved, that a committee of five be appointed by the president to study the character, cost, and value of direct and indirect work for the prevention of disease now conducted by hospitals and dispensaries, to arrange in the order of their importance and practicability successive steps for the extension of such work, and to prepare methods for its financial support for its correlation with the similar work of other agencies, public and private.

"Resolved, that the sum of $250, or as much thereof as may be necessary, be and is hereby appropriated to carry out the purpose of the foregoing resolution."

Evolution of the Igorrote.

The doctrine of physical ministration for the benefit of the soul is not a new one, but its practical application among the head-hunting Igorrotes and the other savages of the Philippines is something out of the ordinary, and rather a reversal of the usual procedure. Generally the missionary wants his subject to realize at the very outset that his mission is a spiritual one. In the Philippines this process does not seem to have worked out well, because

Philippine hospital at Bontoc.

in a hundred years or so the Spanish clergy seems not to have made much impression, but rather has succeeded only in contributing scalp-locks, heads, and other grewsome relics to decorate the homes of the savages.

Now the medical department of the Philippine government is trying the physical welfare doctrine, with the following results, as cited in a recent report of Director of Health Dr. Victor G. Heiser:

"The influence which the extension of medical and surgical relief and the establishment of modern hospitals has had in bringing the wild man to the ways of civilization can probably never be accurately estimated. It can scarcely be successfully gainsaid, however, that the policy of winning the wild man through peaceful means had its most powerful weapon in the feeling of gratitude brought about by the ministrations of the doctor. The progress

Philippine vaccinator.

along these lines has been phenomenal. Where, a few years ago, wild, head-hunting savages roamed through the hills at will and indulged in their murderous practices on every hand, there now exist modern hospitals where their ailments are treated, and the doctor and nurse go about the country in security, ministering to their physical ills. The latest of these hospitals was completed and opened at Bontoc for the reception of patients during the early months of the present calendar year. The hospital is a modern brick structure, of thirty beds capacity, with ample facilities for the treatment of out-patients, and with room for housing a portion of the personnel."

Not only is the Bontoc hospital a comely, clean and sanitary structure, as the accompanying illustration shows, but the second illustration indicates that the savages themselves are not unwilling participants in the white man's efforts in their behalf. Working out of the hospital, and as a part of the out-patient service, are native assistants, the one in the picture being a professional vaccinator. It seems he does not wear the regulation duck of the American doctor, but makes a fine appearance of efficiency, clothed in his new authority and a military belt and hat.

FOREIGN CORRESPONDENCE

LONDON LETTER.

Crisis in Affairs of London Hospitals—Many Beds Closed —Funds Being Withheld—American Plan of Pay Beds Already Started—"Nursing Homes" in Disfavor.

London, October 15, 1913.

Recently the *Morning Post*, one of London's best-edited daily papers, has done good service to the hospital world by publishing in tabular form some information that has just been procured from the secretaries of many London hospitals in response to a circular seeking information concerning the number of beds now in daily occupation and use, and of those closed through lack of funds. The replies so far obtained show that in London at least 133 beds are closed for lack of funds, and that in respect of several institutions a reduction of subscriptions in consequence of the operation of the National Insurance Act is alleged. Another point brought out clearly is that many secretaries agree that it is now an issue of practical moment whether or not it will be possible longer to maintain our voluntary hospitals on their present basis. That not merely subscriptions are falling off, but legacies, is freely admitted, and complaints of lack of funds are general. But some secretaries, who are reluctant to acknowledge that the time for state, or rate, support has come, yet seem to think that the basis on which appeals for charitable support have hitherto been made should be abandoned, and that the public should be asked to contribute funds rather by reason of the plea that the whole community will be benefited by the increase of knowledge flowing from more efficient hospitals and schools, than from purely philanthropic motives. In other words, it is hoped that the rich, if they will no longer subscribe in order that the sufferings of the poor be relieved, will do so in order that increased skill and knowledge may be at their disposal in the future. Some of the very rich may from time to time place large sums at the disposal of hospitals and medical men for purposes of investigation and research, but, speaking generally, the British public is a little shy—curiously so, perhaps—of subscribing to hospitals on such grounds. The unexpressed feeling really is that, if money is to be devoted to the prosecution of research, it had better be provided by the state, and be distributed under control, than subscribed voluntarily by the general public, to be expended by the uncontrolled authorities of individual institutions. Charity is one thing, I have heard it said; the business of conducting research and furthering preventive medicine is another; and so far the results in England of endowed investigations have been singularly sterile. For this there are several reasons which need not now be pursued. No real confidence can, therefore, I think, be placed in the hope that the voluntary hospital system may be supported, if the flow of charity fails, by such pleas as this, that subscriptions to the maintenance of hospitals increase the sum of knowledge and skill available for humanity at large. Some other replies received by the *Morning Post* are of special interest.

"The secretary of University College Hospital prefers not to attempt any forecast for the future, but adds: 'The prospect of maintaining the voluntary system at our great hospitals is not encouraging, and I think you would be doing a public service if you opened the eyes of your readers to the fact that, if they fail to maintain the hospitals by voluntary contributions, they will be faced with a compulsory burden of some twenty millions annually in the form of taxes, or rates, for the support of these indispensable institutions. You would also, I think, be doing a public service by emphasizing the necessity of safeguarding the voluntary system of our hospitals as a national heritage, admired and envied by all foreign countries—a system of which gratuitous personal service, sympathy, and care for each individual sufferer are the outstanding features and incontestible arguments for its continuance.'"

The answer to this is that the taxpaying public know that, if hospitals are "put on the rates," they will be allowed to participate, on terms, no doubt, in the medical bounties now enjoyed only by the poor.

With reference to the operation of the Insurance Act, the secretary of the Hospital of St. John and St. Elizabeth states:

"We have not actually closed any of the beds, but owing to the recent great increase in the cost of food, rates, income tax, etc., we may soon have to do so, because our expenditure has become much greater than our income." The secretary of the Royal Maternity Charity, which is a charity without hospital or home, writes: "Since the Insurance Act came into force the charity has lost a great many of its annual subscribers, and donations have not been by any means up to the usual amount; due, we believe, to the erroneous impression amongst the charitable public that every poor married woman will receive the 30s. maternity benefit during her lying-in period, whereas as a proved matter of fact there are hundreds and hundreds of the wives of the unemployed and casual labor class who through unstamped cards fail to qualify for it. . . . It thus comes about that (1) we have lost much public support, and (2) the poor women for whose benefit this support used to be given are finding out that 'from him who hath not shall be taken even that that he hath,' and are beginning to turn again to seek the aid of the hospitals and charities which always helped them, whilst these latter are in a worse position to meet the strain. The logical conclusion of this is that the maternity benefit scheme of the National Insurance Act helps those, to a certain extent, who are in employment, and consequently can better afford to pay the midwife, whereas those who are out of employment are left to shunt for themselves, and fall between the devil and the deep sea."

A point brought out clearly is that several of the hospitals are being obliged to meet current expenses out of capital. Thus, at St. George's Hospital, "no wards have had to be closed for want of funds, because the hospital has a reserve capital fund, which is, however, being depleted to the extent to about £10,000 a year." The ordinary expenditure has exceeded the ordinary (certain) income during the last three years as follows: 1910, £15,-700; 1911, £13,900; and 1912, £18,000, and this means that the hospital has had to make use of any legacies received instead of investing them, and in addition to realize stock. The secretary of the Royal Eye Hospital writes in the same strain: "We have to use capital to keep going; our annual voluntary income is not sufficient, and recent legislation is further diminishing receipts."

In some cases appeals for money are being made in order to pay off bankers' loans. Thus, the Great Northern Central Hospital writes: "An appeal for £11,000 is now being issued to repay a loan from the bankers of £7,000,

and to meet current expenses in excess of income." The City of London Lying-in Hospital has had to borrow £10,000 from its bankers for compulsory rebuilding. The East London Hospital complains: "This year has been a very bad one; we are so much in debt at the present time that it is quite likely we shall have to curtail our work at the end of the year." The Royal Hospital for Incurables owe their bankers £2,000. Many of the institutions emphasize the urgent need of money. Thus the Belgrade Hospital for Children: "Should the present support not continue, beds will again have to be closed." The Queen Charlotte's Lying-in Hospital: "The beds have been kept open with the greatest difficulty, for the income during the last two years was £3,227 short of expenditure." The Queen's Hospital for Children: "No beds have ever been closed at this hospital for want of funds, but the absolute necessity for such a step has almost arisen on two occasions recently—namely, in 1904 and 1909. We have managed to get over our difficulties without resort to this disastrous expedient thus far, but we hope that the public will appreciate the fact that we are none the less in need of support. The expenditure for 164 beds and treatment of 30,000 out-patients (75,000 attendances) annually is £15,000, while the income from endowments is £400." The Royal Westminster Ophthalmic Hospital: "Though funds are falling off we have managed to keep all our beds open. Maintenance expenses are increasing yearly." The National Hospital for the Paralyzed and Epileptic: "The total amount by which income has fallen short of necessary expenditure during the years 1910, 1911, 1912, has been £8,173. Unfortunately, nowadays most of the London hospitals have to rely upon legacies to supply part of the annual income, and should these fail, as they have done very frequently in recent years, the charities find themselves in some difficulty; this is our case, and we do not see much prospect of any immediate improvement."

An optimistic note is struck in the reply from Mr. Melhado, the well-known secretary of the Middlesex Hospital, who writes:

"Never in the history of the hospital has its bed capacity been reduced, even during those periods of grave financial difficulty which most charitable institutions experience from time to time. It may possibly be said with truth that money is not so easily obtained now as it was some years ago, but it is by no means certain that careful analysis would show that to be the case. Whether it is so or not, the fact remains that, if trouble is taken to interest the public in the work of a hospital, and confidence in its administration is established, the money required for its maintenance is forthcoming."

But, then, the Middlesex Hospital has enjoyed, during the last ten years or so, the inestimable advantage, which Mr. Melhado would be the last not to acknowledge, of the prestige that has become attached to it through the remarkable and really splendid work done on its behalf by the brothers of Her Majesty Queen Mary. Prince Francis of Teck, whose untimely death three years ago was and is so deeply regretted, worked really nobly and indefatigably on behalf of the hospital, occupying himself for many hours a day in its interests, and his brother, Prince Alexander of Teck, has taken up its cause with no less enthusiasm and ability. But the very fact that it is under such circumstances that the secretary of the Middlesex Hospital speaks with such optimism indicates that the present system as one of general applicability in the near future is doomed.

A sign of the times of considerable importance is afforded by the statement of the secretary to the Charing Cross Hospital, in which attention is drawn to the fact that five of the wards at that institution are at present closed for lack of funds:

"The reason these beds were closed was that we had a mortgage of £85,000 on the hospital property, and the annual charge for interest and sinking fund swallowed up funds which would otherwise have been used for maintaining these closed wards. This mortgage debt has now been reduced to £62,000, and we hope in the next few months to reduce it still further as a result of the appeal which is now being made by Lord Lonsdale. We have, at the same time, a scheme for opening three of the five closed wards as wards for patients of moderate means on a small payment basis of two guineas per week. These, if successful, will be self-supporting. The other two wards are to be opened for free cases, one for children and one for special diseases—eye, ear, nose, and throat, skin, orthopedic, etc. The amount required to carry out the necessary alterations for opening these wards in the manner stated is some £6,000, and about half of this has already been promised us, so that we have every hope that we shall shortly be able to proceed with the scheme which we contemplate, and thus have the whole of the hospital once more in full use."

I believe that this step was contemplated before Sir William Osler delivered his recent remarkable allocution on the subject of paying beds and wards, but it is clear that the tendency to follow his suggestion has already set in, and it will be interesting to see which hospitals follow suit. It may well be that the principle will be rapidly adopted, and it seems obvious that if a part at least of each hospital is set on one side for paying patients of moderate means, the complete control by the state, or by municipalities will be long deferred.

Amongst the various influences which must be reckoned with as determining the trend of public opinion in favor of such action as that contemplated by the authorities of Charing Cross is, undoubtedly, the grave and increasing dissatisfaction felt by all classes, medical and non-medical, at the laxity of management and the exorbitance of fees charged that now characterize so many of the "nursing homes" that flourish in the West End of London. Yet, in the absence of private hospitals controlled by medical men, or of private wards in public hospitals, the public have no option but to submit, and the doctors have no option but to advise them so to do. With the coming increase, however, of paying wards and beds, here and there, in hospitals, the day of the nursing home will draw to a twilight close.

F. G. Crookshank, M. D.,
Physician to the North-West London and Hempstead General Hospital.

BERLIN LETTER.

A "Small" Hospital—Description of Its Principal Features —The German Idea of Institutional Work.

Berlin, October 20, 1913.

A return to Europe after two years of absence has opened old wounds. I should have left hospitals alone, except as I happen to see them merely from the laboratory side in the course of the work which interests me. But this hospital-letter-writing thing has been thrust upon me, and I cannot go through the institutions here, in France, in England, and especially in Germany, without acute mental anguish. I thought that I had closed the book of my short experience as a so-called hospital official, but I find that each day here rubs off a little of the scab and I am rapidly getting down to the still bleeding ulcer, which has never completely healed.

To be absolutely frank, I feel that we had the makings of one of the best municipal hospital systems in the

world right in St. Louis. By a fight of the hardest sort, and by stubborn persistence against all sorts of odds, the way was opened for a modern, up-to-date, enlightened hospital policy which would have made St. Louis a real medical center instead of a mere transfer station for Chicago, Baltimore, and Rochester, Minn. But because of the wavering policy of a mayor, who was too anxious for the tax rate and too easily advised by an honest but miserly official, who put pennies before policy, the city of St. Louis had to lapse into the good-enough-for-the-pauper state that characterizes so many municipal institutions in our country.

In St. Louis our hospitals are physically good enough now, there are plenty of bricks in their walls, and they have nice composition floors, and even rounded corners to avoid dirt accumulation. But when one looks around for that subtle thing called "tradition," it is not to be found. And the sad thing is that the present organization will never produce it in St. Louis.

Most of the hospitals of Paris are rotten physically; they are ruins of a hundred years or more ago. Your feet may go through the disintegrated flooring and the plaster (if there is any left) may assail you from the ceiling as you walk the wards, but it is in these hospitals that men like Babinsky and Tuffier and Widal have been developed. And never in a thousand years will we develop such men in our municipal hospitals in St. Louis under our present system.

This may appear rank pessimism, I know, but I do not mean to infer that we in America are hopelessly lost. Pessimism obtains with the utmost freedom with the medical profession everywhere, and, if you talk with a hospital physician either in Berlin or Paris or London, he will probably tell you that the particular system under which he is working is the worst possible, and that everything is rapidly going to the bad, with no chance of salvation in sight. In Germany, for instance, they tell you that the municipality is spending too much money; that they are rapidly reaching the point where the taxpayer cannot stand the onerous burden that is being thrust upon him, and that sooner or later they must come back to the voluntary system of hospital support. In France, on the contrary, the complaint is that they can get nothing like a sufficient sum from the municipality even to keep up their routine work. And when you come to England you are met with the mournful statement that not only the hospitals, but the entire medical profession, is in that transitory state that awaits only another nod of the head from Mr. Lloyd George to be swept out of existence completely and forever. But, notwithstanding all this talk, the hospitals everywhere seem to get along somehow or other, and the sick, whether rich or poor, don't have to sleep in the streets—yet.

However, I started to write about some more of the German hospitals and I must get back to my mutton. One might think from what has already been said about the extent and excellence of the Berlin institutions that the people living in the immediate suburbs of Berlin would be perfectly willing to make use of them. But there is nothing like setting a good example (as well as a bad example) to acquire a following; therefore the people in the suburbs of Berlin say, "Why should we waste a half hour in a taxicab when we can build hospitals of our own?" and the result is that the suburbs of Berlin possess hospitals as wonderful in their way as those in Berlin itself.

I will omit the Charlottenburg Krankenhaus for the present, for Berlin has spread itself out so rapidly that one practically considers Charlottenburg as a part of the city of Berlin. It might be stated in passing, however, that this hospital, which was erected in 1900-1905, can care for about 700 patients and cost over $1,500,000.

What I wish to write about more specifically in this letter is a hospital to the north of Berlin, in a community that also is now almost a part of the city. One can reach it easily in an autobus from Friedrichstrasse. This hospital bears the rather formidable title, "Krankenhaus der Gemeinden Reinickendorf, Tegel, Wittenau, Rosenthal." (I shall try not to repeat the name.) As can be seen, it is an institution built by these four communities

Reinickendorf Hospital—Administration Building.

on an agreeably worked out financial plan of construction and maintenance, based on the number of patients coming from each town.

If one has the idea that the German people are not hustlers, they should look up the history of this institution. The plan was conceived in August, 1906; the plan was perfected in June, 1907, and the land obtained; the buildings were begun in October, 1908; and in October, 1910, everything was completed. While the hospital has at present only 200 beds, everything is so planned that another 200 beds can be added easily at any time without

Reinickendorf Hospital—Medical Pavilion.

greatly changing the administrative and operating plant. The cost of this hospital was 1,900,000 marks. The medical director is Professor Klemperer, of Berlin, and the surgical director is Dr. Kleinschmidt, of Charlottenburg.

At the main entrance of this institution is the administration building, and, passing through this, one enters the usual large park that characterizes all German hospitals. On the right and left are the medical and surgical buildings, and straight back is the laundry, kitchen, boiler house, and servants' quarters. To the extreme right and left corners of the grounds are the isolation pavilions and the pathological institute. The large pa-

vilions are so built that all the private rooms have their windows facing the south, and the large rooms (wards) have the main corridor running north and south, so that they have sunlight both forenoon and afternoon. In all, there are ten separate buildings, with space reserved for ten additional buildings.

The administration building, which has four stories, has rooms for the out-patients, private rooms for the medical directors, living quarters for the inspector, a sitting room and casino for the staff, and sleeping rooms for the nurses. The medical and surgical pavilions are of similar construction. The buildings consist of a central part with two wings, one of which is occupied by male patients and the other by the women and children. There are a number of small rooms holding from two to six beds. The largest wards have sixteen beds. On the top floor are quarters for physicians, nurses, and some of the help.

The operating rooms are in the rear section of the central part of the surgical pavilion. The large operating room is lighted from the sides as well as from above. There are a half dozen special rooms for instruments, for sterilization, for bandaging, for washing, and what not.

The isolation buildings are well separated from the rest of the hospital. In each there is a nurses' room, operating room, laboratory, small kitchen, wash room, and bath room. The pathological building is a gem, and deserves a more extended description than I can accord it in this letter. It is not only a practical laboratory of diagnosis, but a research institute as well, as are all these institutions in Germany. Regarding the laundry, kitchen, boiler house, electric plant, appliances for disinfection and sterilization, it can be said that they represent the last word in up-to-date hospital equipment. There are complete röntgen ray departments in both the medical and surgical pavilions.

But enough of all this description. Description is very unsatisfactory anyway, especially as applied to hospitals. If I have given a vague idea of this institution, it will serve my purpose, for the main point I wish to arrive at is, What does such an institution as this mean? It means clearly that Germany must be given the first place among nations in the development of municipal science. The individual is cared for in Germany by the municipality because municipal officials are especially trained for the positions they hold and are adequately paid for their services. The thing that we see in America of a special commission—such as a hospital board, for example, being made up of a butcher, a baker, and a candlestick maker—is a form of sport that the German citizen would not tolerate.

In Spain they have a saying, "Beans are cooked in every country," but first you have to catch your beans. Until we can train men to be experts in hospital construction and organization, and teach them the purposes that hospitals are meant to subserve, we must be content to amuse ourselves with our municipal institutions as they are at present conducted.

R. L. Thompson, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

One of the largest families in the country is believed to be that of a 70-year-old Italian in the north end of Boston, who has been twice married and has twenty-eight living children. His present wife is eight years younger than his oldest son. His youngest child is three and his oldest grandchild twelve years of age.

LETTERS TO THE EDITOR.

A Correction.

To the Editor of The Modern Hospital:

In Dr. Theodore C. Janeway's article in the October number of THE MODERN HOSPITAL, in the list of statistics of autopsies in American hospitals, compiled by E. H. Lewinski-Corwin, I notice that the Massachusetts General Hospital is credited, in 1912, with 429 deaths and 66 autopsies, giving a percentage of autopsies as 15.4. This is an error. Of the 429 deaths, 151 were autopsied at the hospital, giving a percentage of 35.4. In addition to this, 66 cases of the 429 were medico-legal, and may or may not have been autopsied at the city morgue. I have written to Mr. Lewinski-Corwin of this error.

Joseph B. Howland,
Assistant Administrator.

A Correction.

To the Editor of The Modern Hospital:

I wish to correct an error that occurred in the October issue of THE MODERN HOSPITAL where I was misquoted by the stenographer at the Boston convention. I was quoted as saying that our publicity campaign raised $16,000 from 14,000 people, when I said we netted $116,000, with 4,000 pledges in a town of 35,000 people. A fire-proof building, to accommodate 75 patients, is now under construction.

Nettie B. Jordan, Superintendent.

A Layman's Hospital Experience.

To the Editor of The Modern Hospital:

The two copies of THE MODERN HOSPITAL have been received, and I congratulate you and your associates on this journalistic undertaking. The journal must certainly be appreciated by those in whose interest it is published.

I presume you will be interested in any matter pertaining to good hospital management, and am therefore prompted to write concerning an incident that occurred a few days ago. One of my assistants underwent an operation for appendicitis in a local hospital, and was very low for some time after the operation. As soon as it was permissible for persons to visit him, I was one of the first to call. I found him very weak; in fact, he could hardly talk. On a table near the bed he occupied were the requisites used in such cases, but on top of these articles, in plain view of the patient and of any visitors who might call, lay his bill for the first week's service.

I assure you, as a layman, this conspicuous exposure of the bill hurt me to the core, and made the cold-blooded side of the hospital business run up and down my back. I presume that the modern hospital must receive money for its service, but it seemed to me that the presentation of this bill to this young man at that time and in that manner was an act that would obviously not have a tendency to quiet his mental attitude or improve his physical condition.

I am of the opinion that the principle involved in this incident is a subject that could be very properly taken up by your journal, and I can assure you that, if it ever becomes necessary for me to enter a hospital for treatment, the thoughts of the appearance of that bill under the circumstances will be vividly recalled to my mind.

C. W. Leary,
Manager of Sales, Troy Laundry Machinery Company.

CURRENT HOSPITAL LITERATURE

The Extension of Radcliffe Infirmary, Oxford. A Tour of the New Block with Captain G. C. Rynd, Secretary. Hospital, London, 1913, LIV, August 23.

The original institution, a Georgian building, was founded in 1770. The estimated cost of the extension is £25,000, of which £8,000 has been raised.

The New Kaiser-Jubilee Hospital of the City of Vienna (Das neue Kaiser-Jubiläumsspital der Gemeinde Wien). J. Klingsbigl. Ztschr. f. öffentl. Gesundheitspflege, Wien, 1913, I, No. 3.

The hospital is located on the west side of Vienna, close to an extensive public park. It has rooms for 1,000 beds and cost about $5,000,000. The article is accompanied by a number of plans and photo prints.

Service Retirement Allowances on Account of Old Age, and Service Disability Allowances. Booklets issued by the Prudential Insurance Company of America.

In two very handsome, embossed, gold and silver lettered booklets the company tells of its plan for taking care of those who have grown old, or who have acquired disability in the company's service. These are new social service plans, and detailed rules for their operation are given.

The Gymnasium at the Virchow Krankenhaus. A. Laqueur, Berlin, director of the Gymnasium. The Hospital, London, September 20, 1913.

All the exercises in the gymnasium are under the direction and the constant eye of the medical attendants. Exercises for different patients and different diseases are very carefully selected. Hydrotherapy and electrotherapy are in the same building and under the same medical directors.

The Tastet-Girard Hospital in Bordeaux, J. Vergely. Jour. de méd. de Bordeaux, 1913, LXXXIV, No. 32.

This hospital was founded by a benevolent lady, Madame Tastet-Girard. It consists of one large central building to which are attached two extensive wings. The hospital has two operating rooms, the larger one is twenty-six feet square, with the light coming from above and from three sides, and is considered one of the finest operating rooms in France.

Lady Williamson Memorial Home (Liverpool), Hospital, London, 1913, LIV, August 23.

The institution is a home or hostel for nurses in connection with the Liverpool Queen Victoria District Nursing Association, and was presented to the association by Sir Archibald Williamson in memory of his late wife. A diagram of the ground and first floor plan is given, with a general description of the building, of which Mr. F. C. Trench, M. A., is the architect.

Mental Hospitals—Past and Present. Editorial in The Hospital, London, October 11, 1913.

This is a recapitulation of what has been done for the mentally diseased, insane, idiots, epileptics, and imbeciles in England during the past century, including a reference to some of the lunacy laws of the period. On the whole, the writer thinks the mentally unbalanced are getting good care, and that really intelligent and scientific methods are being applied, both for prevention and cure.

Open Air Wards in Australia. A. P. Payne, secretary of the Brisbane Hospital. The Hospital, London, September 20, 1913.

This is a description of a 26-bed ward for acute cases, including surgery and children. Most of the space in the side walls is open and is protected by canvas blinds on American shade rollers. The author's final word is that the success of the open ward depends on the nicety of the mechanical contrivances to shut out the wind, rain and draughts.

Mental Deficiency in England. Symposium on the act of 1913. Sir Horatio Bryan-Donkin and G. E. Shuttleworth. Hospital, London, October 11, 1913.

This new lunacy legislation was brought about by representations made by responsible civic bodies, charging a want of proper care of the mentally diseased under existing laws. Sir Horatio takes up in his paper "The Treatment of Defectives and Further Research." Dr. Shuttleworth discusses the new law and "The General Scope of Its Provisions."

Some Often Neglected Points Relating to the Care of Infants and Young Children. Dr. Wm. P. Herbert. Southern Med. Jour.

This is a paper on the social service care of expectant mothers, the training of the women for their new duties, breast feeding, and an argument for natural feeding of infants; there is a part about the general care of children, another concerning the infectious diseases; the balance of the story concerns tuberculosis in children, the sources of infection, and an array of cases in point.

Indirect Lighting in a Small Hospital. F. Alex. McDermott, Lighting Journal, New York, October, 1913.

The writer, who is connected with the industrial research department of the University of Pittsburgh, describes the artificial lighting of the Samaritan Hospital, Ashland, Ohio. The article is well illustrated, but there seems to be nothing new proposed or described, and the figures of candle power, distances, heights, etc., are in common use, as are also the lighting fixtures, which are to be seen in any catalogue of the present day.

Discarded Warships as National Sanatoriums. Brit. Med. Jour., 1913, II, 881.

The *British Medical Journal* comments editorially on the advantages of using discarded warships as floating sanatoriums, especially for tubercular children. The ship is ineffective or out of date as a war vessel long before it has decayed as a sea-going ship. The idea seems to have been carried out first in Italy. The secretary of the Italian navy recently decided to convert three old warships into sanatoriums. Dr. Arthur Jacobson, of Brooklyn, was moved by this example to make an appeal to the American public, and it was brought to the notice of the Fourth International Congress on School Hygiene in Buffalo last August by Dr. S. A. Knopf. The *Journal* commends a similar action to the British admiralty authorities.

The New Central X-Ray Institute in the Royal and Imperial General Hospital in Vienna (Das neue Zentralröntgen institution k. k. allgemeinen Krankenhause in Wien). G. Holzknecht. München med. Wchnschr., 1913, LX, No. 29.

The building consists of fourteen large rooms and contains ten Röntgen apparatuses. The cost was about $40,000. A number of innovations in the arrangement of the various apparatuses are mentioned. Thus it is possible, by a system of exposition tables, to obtain at all times excellent pictures in a very simple manner.

The Sewage Purification Plant of Bergquell Hospital in Frauendorf, near Stettin (Die Abwasserreinigungsanlage der Heilanstalt Bergquell in Frauendorf, bei Stettin). Endris. Heilanstalt, Leipzig, 1913, VIII, No. 12.

Prussia has lately passed a law which strictly forbids the pollution of water courses by the sewage from schools, hospitals, military barracks, etc. In this article the author describes a small sewage purification plant for a hospital which can be constructed at a comparatively small expense. The purification plant of Bergquell Hospital did not cost more than about $1200. The managing expenses are quite insignificant.

Hospitals From The Patients' Point of View. Experiences in a Metropolitan Asylum Board Hospital. Hospital, London, 1913, LIV, August 30.

A scarlet fever patient tells of his sudden removal from hotel quarters during a business visit to London; of his reception and treatment by employees and nurses; of the happy outcome of his attack and release from hospital. "Peeling" continuing for three weeks thereafter, or nine weeks from contraction of the disease, and his convalescence on a dairy farm, where there were children, with no case of scarlet fever reported, either on farm or in the village.

The Groundwork of Hygiene of Hospitals with Reference to the Building of Hospitals for Cripples. Boethke. Ztschr. f. Krüppelfürsorge, Leipzig und Hamburg, 1913, VI, 166-182.

The author, who is a "Kaiserliche Baurat" of Berlin, gives at length his idea for the construction of a modern home and hospital for the care of cripples, including gymnasium, rooms for mechanical and hydropathic treatment, school room, and playground. He estimates the cost per bed at the least as 4,000 marks, exclusive of the ground price and furniture. For the furniture 600 marks per bed will be required, and naturally no estimate can be made for cost of land.

The Emperor William's Children's Home at Ahlbeck. Medner. Deutsch. Med. Wchnschr., 1913, XXXIX, No. 39, 1888.

Description and plans are given of this children's home designed to give a four-weeks' stay at the seashore to children from the city, whose health is endangered by bad hygienic conditions. There are two large and two small wooden pavilions, the large ones each accommodating twenty-five and the small ones twelve children; a building for the sisters, farm buildings, laundry, and a hospital building for sick children. They care for 150 children per month, and an attempt is to be made to determine scientifically the benefit to be derived from such a stay at the seashore. The entire cost of the institution was 300,000 marks, to be paid from the imperial treasury. It is probable that equally satisfactory results from a hygienic point of view could have been obtained at lower cost.

The New Cancer Remedies, Radium and Mesothorium—their Purveyance, Management, and Application (Die neuen Krebsheilmittel, Radium und Mesothorium, ihre Beschaffung, ihre Verwaltung, und Verwendung). T. Deneke. Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 32.

Experience has shown that a very large quantity, at least 150 milligrams, of radium or mesothorium is necessary to carry out a successful treatment of cancer. As the means of an ordinary hospital are not sufficient to procure these expensive remedies, the author advises that the respective state or city be asked to make a special appropriation for this purpose. Sometimes benevolent, wealthy men may be induced to furnish the necessary funds.

The Evolution of the Technic and Organization of Insane Asylums—Contribution to the Question of the Care of the Insane in the Province of Milan. (L'evoluzione della tecnica e dell' organizzazione manicomiale; contributo alla questione dell' assistenza degli alienati in Provincia di Milano). G. Antonini. Attualita medica, Milano, 1913, II, No. 5.

The author gives a short sketch of the development of the hospital for the insane from the old barrack-like structure of olden times to the village type of the present day. He considers the latter type the most suitable form of an insane hospital. At least fifty to seventy-five acres are, in his opinion, necessary to carry out the village plan. The article is accompanied by a great number of photo prints of German, Austrian, and Italian hospitals for the insane.

Need of Inexpensive Obstetric Nurses. W. C. Gayler. St. Louis. Jour. Am. Med. Assn., September 6, 1913, p. 787.

This is a short article deploring the scarcity of "practical" obstetric nurses. There are two classes of these nurses now at work, Dr. Gayler says: first, those who feel quite equal to the duties of the obstetrician without the service of the doctor, though they are hopelessly ignorant; these sometimes perform abortions and are the ones who bring the "practical" nurse into disrepute; second, those who are really efficient under the physician's directions; these are always busy and soon raise their fees so that they are out of the reach of the family of limited means.

Fundamental Principles in the Construction of the City Hospital of Munich-Schwabing (Grundsätze für den Bau des städtischen Krankenhauses München-Schwabing). Brunner. Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 36.

As the city of Munich has a higher altitude than any German capital (1600 feet), and as the day and night temperature is very changeable, the designers of the new hospital considered it best to avoid the erection of a number of small low buildings. They built one large three-story structure. The sick rooms contain only from 1 to 4 or 5 beds. The rooms are all ranged along the south side of the building, while the corridors run along the north side. The hospital is provided with artificial ventilation. A special detached building receives the patients with infectious diseases.

The Necessity for State Endowed Hospitals and a State Medical Service. J. C. McWalter. Medical Press and Circular, 1913, XCVI, 373.

McWalters traces the history of hospital development from the days when hospitals were merely lodging houses for pilgrims and strangers—conducted by members of religious orders, and when hospitality, not cure of disease, was the dominant motive—up to the elaborate architecture, equipment, and research of the modern hospital. He points out that the benefit of all modern dis-

coveries for the treatment of disease—light cures, electric cures, mechanical apparatus, improved diagnostic methods, vaccine and serum therapy—should be available to every citizen, not as a charity, but as a right, and that the only way to accomplish this is to have hospitals endowed by the State.

The Elisabeth Sanatorium at Neubabelsberg. The first private tuberculosis hospital near Berlin. W. Freymuth. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 9.

The sanatorium is located about twenty-five miles southwest of Berlin, in the center of extensive forests. The institution admits patients of both sexes as well as children. As curative means of the sanatorium are mentioned: 1, a series of balconies and open halls for open-air treatment; 2, a physiotherapeutic annex for hydrotherapy, electric light treatment, and the most common methods of electrotherapy; 3, a large inhalatorium; 4, a well-furnished operation room (special attention is paid to operative treatment of laryngeal tuberculosis and to treatment of pulmonary tuberculosis by artificial pneumothorax); 5, a bacteriological and serological laboratory. The institution is open throughout the year.

The Infants' Ward in the New Vienna Children's Hospital. Ernst Mayerhofer. Ztschr. f. Kinderheilkunde, 1913, VIII, No. 5, 384.

A plan is given of the infants' ward in the new Vienna children's hospital. It is on the second floor, facing south, and the flat roof above is also fitted for use. There are 12 beds in four spacious rooms, so arranged that two of them can be used for isolation rooms in infectious cases. There is a shower bath so arranged that water of the desired temperature can be turned on with the foot. The infants are previously covered with soap, and the nurse holds them with both hands under the shower, thus enabling her to bathe them very rapidly and without standing in a stooped position. There are six nurses to care for the twelve infants—a ward nurse, the head of the diet kitchen, and four sisters who take monthly turns as head nurse, assistant, and night nurse.

The Age Limit. Sara E. Parsons. Am. Jour. Nursing, Baltimore, 1913, XIV, October.

The writer claims as first consideration the school of training. If on duty twelve hours a day, and if placed in wards immediately in charge of patients, with little instruction, or, if required, the entire care of male patients, she protests against the young (23-year-old) probationer. Age need hardly be considered if standard education is sufficiently high—not less than three months, and six or more if necessary. Her statistics show that 40 or 50 percent of probationers entering under 20 years of age are not accepted. Of those who were, however, many made good—their youthful buoyancy and ability to react after depressing experiences proved a real asset in their favor. Miss Nutting, at the recent convention, considered the age of the applicant not so important as the kind of school the girl would enter.

Long Hours of German Nurses. E. Krukenberg. Zentralbl. f. allg. Gesundheitspfl., 1913.

The author refers to an investigation made in 1911 to ascertain the conditions under which nurses worked in Prussian hospitals. Three thousand institutions, with about 280,000 beds, employed about 31,000 female nurses. Of these 41 percent were on duty from fourteen to seventeen hours a day. The number that worked from thirteen to fourteen hours amounted to 40 percent. Such conditions, which are happily impossible in this country, are in part due to the fact that the "trained nurse," as we know her in this country, is not the rule in Germany. Moreover, a large part of the nursing is done by members of religious orders, to whom the work means a degree of personal sacrifice not expected from regular nurses. The drain on the strength of even the strongest means generally less efficient service to both patient and physician, and should therefore, according to the writer, be diminished by the introduction of a more humane system of service.

Isolation Rooms in Residences for Care of Patients Suffering with Contagious Diseases. A. J. Ochsner, M. D., Chicago. International Clinics, Vol. II, 23d series, 1913.

Dr. Ochsner in a brief paper describes how a suite of rooms can be prepared in a private house for isolating a patient with some contagious disease, or caring for an obstetrical case, or for some noncontagious trouble. His plan, as shown in a small diagram, is good, but the reviewer feels that such a scheme, as proposed, is suited only to the rich, who build their homes with a view to this end. It would be quite impossible for the average householder to carry out such a plan as advocated, and the more we hear about contagious diseases the more unlikely it seems that isolating a patient in this extreme way is necessary. The entire subject of isolation needs reconsideration and revision. The American public is hysterical and quite irrational in its view as to the dangers of lepers, and many states, while handling the rare cases of this disease in a perfectly heartless and brutal manner, pay no attention to the much greater dangers of syphilis and gonorrhea, which are not isolated at all.

The Hospitals and Homes of England. The Right Honorable John Burns, Hospital, London, 1913, LIV, August 16, 23.

In his address at the International Medical Congress on the Relations between Medicine and Public Health, Mr. Burns traces the increasing importance of institutional life and institutional methods in the treatment and prevention of disease. He predicts the greater benefit in future of many of the large capital expenditures on hospitals. In the large percent of deaths from phthisis and cancer occurring in public institutions, the writer notes the relief to the over-burdened family, as well as the release from risk of infection. He claims the universal excess of disease in town and country would have been much greater had it not been for the assistance obtained from the hospital. In 1911, 24 percent in England and Wales, and 47 percent in London of total deaths from cancer occurred in public institutions. In the United Kingdom, in 1911, there were 49,854 beds in voluntary hospitals, or about 11 beds to 10,000 inhabitants. In 1896 the hospitals had an income of £2,528,000, which by 1911 had increased to £4,185,000.

Japanese Hospitals. Steinitz. Deutsch. med. Wchnschr., 1260.

The writer gives his impressions of Japanese hospitals, which are, in general, modeled after similar German institutions, even the histories being in part taken in German. The pavilion system is used almost exclusively, and, owing to the ever-present danger of earthquake, are constructed of wood and are usually only one story high. The wards are light, and are, in contradistinction to private homes, heated in winter. The wards, containing from 6 to 30 beds, are fitted in the usual manner, although in the older hospitals one may find the native floor bed. One

striking feature is the fact that male and female patients are placed in the same ward, made possible through the native lack of false modesty. The family of the patient is permitted to visit him the whole day and may assist in his care. The writer frankly confesses the superior quality of Japanese nurses over the German. There are also more of them than he finds at home. In these institutions the food consists of an abundance of meat, which is in contrast with the rice diet to which the natives are accustomed at home. The cost of caring for each patient amounts to about 30 cents per diem.

A New Esophagoscope. Richard Lewisohn. New York Medical Record, October 4, 1913, 648.

Dr. Lewisohn presented a new esophagoscope based on the principle of a rectangular telescope. Its advantages over the old straight esophagoscope are that it can be introduced in a normal position of the head, and it is so constructed that it actually passes in the longitudinal axis of the esophagus and not at an angle to this axis. It is a right-angular instrument, with a light attachment at the proximal end of the horizontal tube and a mirror at the junction of the horizontal and vertical parts. The vertical part consists of six telescopic tubes, the uppermost of which carries two metal guides. These guides lead the way into the esophagus. With this aid one can easily enter the mouth of the esophagus and anchor the instrument within its upper part. All further manipulations—evolving the telescope, etc.—are of course done under the guidance of the eye. The aspiration of mucus is done either with a piece of rubber tubing attached to a Killian bottle or by means of an applicator. A forceps has also been constructed which will make possible not only the excision of specimens for microscopical diagnosis, but also the removal of foreign bodies.

Bispebjærg Hospital. The new municipal hospital in Copenhagen, Denmark. Hospitalstidende, 1913, LVI, No. 38, 1085.

After the establishment, in 1863, of the Municipal Hospital of Copenhagen, Denmark, the percentage of mortality in this city began to decline. But the demand for additional hospital facilities increased steadily until the erection of an additional large hospital became necessary. This, the Bispebjærg Hospital, was opened this fall.

The population of Copenhagen is about 600,000. The municipal hospital has 844 beds, and was built at a cost of 3,262 kroner ($816) per bed. Bispebjærg, also a municipal institution, has 1,278 beds, and the cost of erection amounted to 7,080 kroner ($1,770) per bed. This hospital was built on the pavilion plan, with an area of 162 square meters per bed. Six pavilions, one-half of the projected number, have been built. They are arranged on terraces on the side of a hill, in the general direction of southeast and northwest, and surrounded at a sufficient distance by a group of administration buildings.

The hospital pavilions proper are two-storied structures, Each story is divided into two symmetric halves, connected by a common day-room, the lower ones connecting with gardens, and each building opening on a garden with its south front. A hall runs through the whole length of the building, and opening on this, in each story on each side of the day room, is one room for single patients, one for three, and one for six patients. At each end the hall opens into a ward with 16 beds.

On the north side of each hall is a cooling room, serving for the preservation of infusions, serum preparations, etc., and a room for cleaning and storing utensils. This room also contains a steam sterilizer for the immediate treatment of spitting cups, and racks with bags for dirty linen, the bags being closed and sealed by the nurse in charge before being sent to the laundry.

The floors are made of magnesite on a concrete-and-steel structure, the upper covering being linoleum. Large windows admit light so abundantly that dark hangings are necessary for the comfort of the inmates. All windows are double, the upper part of the inner ones and the lower part of the outer ones being movable, so that fresh air is admitted without causing drafts. Local heat is produced by water heaters, and the general heating of the rooms is regulated from heat boxes in the basements, connecting with the general heating plant. The air, charged with 40 percent of moisture, is blown from the heat boxes at 18°R.

Each bed is equipped with a pull-bell connected with an alarm in the hall. On being sounded, it lights simultaneously a red lamp above the door of the ward from which the call comes, and this light continues until shut off by the nurse as she passes the entrance of the ward. Fresco paintings cover the walls, which can be washed clean in regular routine.

One peculiar feature of the plant is the lowered courtyards, which not only admit abundant light into the basements, but form natural stations in a network of tunnels connecting all the buildings on the large area of grounds (forty-seven acres), except the morgue. Through these "tunnels," which have been built light and spacious, and which accommodate all pipes, cables, etc., the transportation of patients and their supplies takes place.

The surgical department commands two pavilions, each with an operation room for minor work, and both these pavilions connect directly with a separate operation department consisting of a very extensive x-ray plant, two large operation rooms connecting with a common narcosis room, and store rooms. Adjoining is the pathologic-anatomical institute, equipped with exquisite laboratories for all kinds of work. Here and elsewhere every advantage offered by modern engineering has been utilized.

The nurses are lodged and boarded in a separate building, and there also are separate buildings for the baths and the laundry. In the administration building is housed a very large department of drugs and supplies.

The gardens and grounds have been connected into a park, where additional buildings, erected according to future needs, will, with those already built, form a harmonious entity.

Osler Asks Changes in Medical Education.

Sir William Osler thinks the curriculum of the medical schools in England should be greatly abridged, and that lectures should be abolished or shortened; subjects that cannot be treated in the wards might be dealt with in the seminar form. Present-day examinations, he thinks, have only the Chinese value of titanic tests of memory. The distinguished regius professor of Oxford gave some of these thoughts to the medical faculty in the annual address at St. George's Hospital recently.

"Medical education should begin," he further told his audience, "with a thorough training in physics, chemistry, and biology, and the student needs more time for quiet study, fewer classes and lectures, and the removal of the incubus of examinations, above all."

His cure for the examination evil was to have the faculty of the school certify to the work of the students during their courses.

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The Insane Story Weaver of Gardner.

There "resides" at the Gardner, Mass., State Colony for Incurable Mental Cases a woman who has aroused the keenest interest of everybody who comes in contact with her. Her mental state is of the most hopeless type, and she scarcely has the power to evaluate the simplest facts of everyday life; even her food she eats just as it is given to her, without question as to kind, quality, or quantity. Her one interest in life is the work of weaving baskets of colored raffia. The fiber given to the patients is stained in many colors and shades, and is very flexible, so that they can handle it easily. Many of the patients do beautiful work in this material, but the woman of whom we write has developed a veritable genius, an uncanniness that gives one almost a creepy feeling to look at it; it is the pictures she makes in her weaving, the combinations of colors and shades, the figures she evolves. She herself calls them her children, and they are the creatures of her mental fancy, distorted as her own mental state, grewsome beyond description, and suggestive of coffins and ghosts and shadowy things of unearthly origin.

Sometimes she will tell her companions, as she seats herself for the day's work, that she is going to tell her dream of the night, and it is then that she weaves a panorama of horrible fancies, little groups of figures, complete scenes; sometimes there are prison bars and chains (though she has never known physical restraint since she came to the colony many years ago, longer ago than any of the present residents know); there are skeleton hands reaching in, toads with great bright eyes shining from the slippery floor; there are shadowy figures back in the semi-darkness. Sometimes there are grave scenes; and, again, there are scenes of murder and blood, and bleeding babies with skeleton hands gripping their little bodies, and drops of blood oozing through the ghastly, bony fingers.

Sometimes her vagaries take a geometrical turn, and she weaves the most involved combinations of angles and squares and curves, interwoven and fitted together in the most grotesque patterns. Sometimes, and these moods are usually on damp, cloudy days, when everybody is disposed to have the "blues," her mood changes to sunshine and flowers and gaily dressed children, playing with lambs and wreaths. If questioned about the stories she tells in her weaving, she makes no answer—indeed, seems not to comprehend the question. She seems unable to explain any of her work, but Dr. LaMoure and Mrs. LaMoure, the superintendent and his wife, have taken an immense amount of interest in this woman, and her baskets are the most popular of all with the rich residents of the town of Gardner, nearby, and with the many visitors from Boston.

A Sanatorium or a Gas Well?

What is going to happen in Almond next is the main question, exclaims the Elmira (N. Y.) *Advertiser.*

"George Young may sell his well to a noted physician, who is thinking of starting a sanatorium. Men come and go as they taste these healing waters. People with backache take a drink of this water, and forget and go to work, and work all day without thinking any more about their kindred ills. At certain times this well, which is about 1,400 feet deep, takes a start and flows for hours and then settles down to its duty again. There has been a constant flow of gas for years, in spite of all the water that the well contains. It was drilled about twenty-five years ago, while prospecting for oil—old Doctor Sweet, of Hornell, was the man at the helm that caused its existence. Mr. Young now thinks that twenty rods further east might land on oil territory."

Carondelet, the southern suburb of St. Louis, is to have a $20,000 hospital, to be called the "Matilda."

NEW EQUIPMENT

Surgical Beds.

Hospital administrators are besieged with an infinite variety of invalid beds of all sorts, each one having more or less plausible advantages. Robbed of all sorts of individual ideas of inventors, we might consider these beds as appertaining to certain required service in hospitals. As

Fig. 1. Wallace adjustable bed.

a rule, a medical patient does not require any special bed, except that it should be high enough to enable the nurse to handle the patient without stooping over very much, and it should be strong, so that it will not give way at a

Fig. 2. Wallace adjustable bed.

critical moment when the patient is being moved. The spring and mattress of the beds for medical patients are more important than the mechanism of the bed itself, and several matters must be taken into consideration. The spring and mattress upon which the patient lies should be as yielding as possible, so as not to cause pressure sores, or bed sores. The mattress or spring that will permit of a uniform pressure over every part of the patient's body that touches it will be the best. There are bony prominences, as a rule, and a hard bed will permit undue pressure at these points, and that is what causes sores. Water mattresses and air mattresses are usually employed in these cases because the contents are sufficiently yielding to make an even pressure everywhere on the patient's body. Now we have the so-called ventilated mattress that serves the same purpose. These are practically box mattresses, with a great many springs inside, so that very little felt or hair is required on top, and there are a great many spiral springs. There are openings at frequent intervals in the sides of the mattress, so that there can be a constant circulation of air immediately under the patient's body.

In the surgical beds something very different is required. Very often patients must lie perfectly still because of certain surgical conditions, and all of their physical wants must be attended to without any movement of the patient whatever; then there are certain surgical positions that must be attained without the patient having to help in the process of moving. Oftentimes a patient must

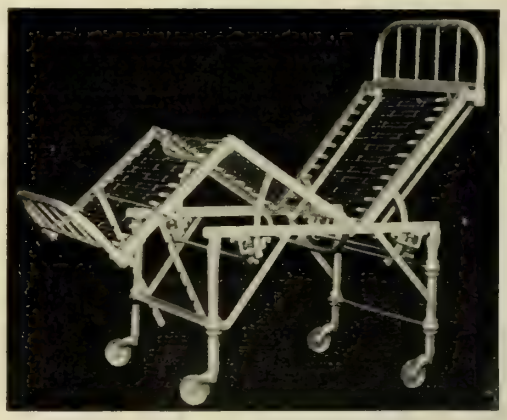

Fig. 3. Way invalid chair bed.

be placed by mechanical means in a certain position when it would be hazardous to allow him to place himself in the same position because of the necessity to bring into play certain muscles and certain bones that are supposed to be at perfect rest. The Fowler and Trendelenberg positions are often necessary immediately following surgical operations. As a rule, patients are placed in these positions while they are still under the anesthetic, and they cannot help themselves in any way or participate in the attempt to get them into the proper positions even if it were not hazardous for them to do so. Herewith are presented three illustrations showing perhaps the most familiar devices for surgical patients.

It will be seen that in two of these devices the whole bed is included, and that these two devices differ in that the weight of one (Figs. 1, 2) is on the four feet at the corners of the bed, whereas in the other (Fig. 3) the bed is practically pivoted from a central point and the head and feet project over. In this latter case there is the thought of the possibility of the bed tipping over with the patient, and of course the device must be so built that this cannot occur. The advantage of this bed obviously is that it can be moved easily, and that its parts are simple and not complicated. Almost any of the surgical positions can be had with this bed.

It seems the chief advantage of the second bed is its adaptability to the patient's physical necessities. The center-piece can be lowered so that the bed pan can be slipped under, while either the Fowler or Trendelenberg position is easily attained by the windlass mechanism. This bed suggests the idea of complicated mechanism, which, while it will not necessarily get out of order, means time and energy in cleaning.

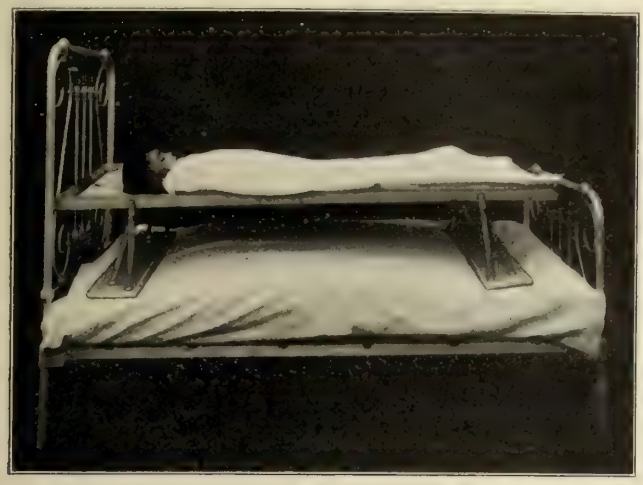

Fig. 4. Warlick supplemental invalid bed.

The third device (Figs. 4, 5) is not a bed at all, but a simple metal frame, with a properly constructed canvas cover for the patient to lie on. The two end-pieces allow either the head or foot to be raised. The canvas is in one piece, with brass rings around the sides and ends for fastening into hooks in the frame. It might be better if the canvas were in three parts, so that the middle part—say, a foot in width—could be taken out for use of the bed pan, although there is now a circular hole through the canvas for that purpose, but the edges of the hole are likely to be soiled.

Fig. 5. Warlick supplemental invalid bed.

There are innumerable beds on the market, but the principles employed in these three will cover most of the others. Obviously no hospital will want these beds for all its patients, and no doubt different administrators will be attracted by one as against another of these devices, but every hospital should have one of these surgical beds to each half dozen or dozen ordinary beds, so that they could be employed when necessary.

Legacies for Hospitals.

By the will of the late Bernard Wolbarst, of New York, the sum of $1,000 is bequeathed to Beth Israel Hospital of that city.

By the will of the late Elizabeth Dorsey of Philadelphia, who died at Colorado Springs, Col., bequests are made as follows: $1,000 to the Woman's Hospital of Philadelphia, $500 to the Germantown Hospital, $2,000 to the Adirondack Cottage Sanitarium at Saranac Lake, N. Y., and $1,000 to the endowment fund of the Colorado Cottage.

The Massachusetts General Hospital of Boston receives $30,000 and the Boston Children's Hospital $25,000 by the will of the late Miss Harriet O. Cruft of that city.

By the will of the late Julia Garrett of Philadelphia bequests are made as follows: $50,000 to the Orthopedic Hospital and Infirmary for Nervous Diseases, to endow the William Evans Garrett Memorial Ward, $25,000 to the Pennsylvania Epileptic Hospital and Colony Farm at Oakbourne, $10,000 to the Bryn Mawr Hospital, as a memorial to William E. Garrett, Jr., and $10,000 to the Episcopal Hospital.

By the will of the late Fanny R. Dickson of Philadelphia the sum of $5,000 is bequeathed to the trustees of the University of Pennsylvania for the maintenance of a bed already established in the orthopedic department of the University Hospital.

By the will of the late Margaret H. Frederick of Philadelphia the sum of $5,000 is bequeathed to the Hahnemann Hospital and the sum of $250 to the Ladies' Aid Society of the Presbyterian Hospital.

By the will of the late Cornelius A. Lane, of Philadelphia, the sum of $5,000 is bequeathed to St. Vincent's Home and Maternity Hospital, $500 to St. Joseph's Hospital, $500 to St. Mary's Hospital, and $500 to St. Agnes' Hospital.

A Pean of Praise.

Editorial sanction of ragtime in the hospital comes from the Springfield (Mo.) *Republican*, because the editor does not want to be reminded of his editorial sins or the possibility that he may be on the way to receive his punishment. He sings as follows:

"We are not accustomed to look for anything good to come out of Wichita. That is why we are so surprised to hear a particularly sensible and timely note sounded there with respect to a matter which has long needed to be treated in just that way. Why it has not been elsewhere, and long ago, we are at a loss to know.

"Wichita hospitals have adopted a rule that only bright and happy songs shall be sung by persons visiting those institutions to cheer the patients with music. There must be no allusions to death, nor to sorrow or its concomitants. Singers whose repertoire consists only of selections of the kind tabooed will be asked to save their vocal efforts for other places than hospitals.

"A sensible idea, assuredly. Who, flat on his back in a hospital, with possible Death leaning over the pillow, wants the task of feeling cheered up over songs relating to 'The Sweet Bye and Bye,' 'Over There' or 'Waiting and Watching for Me'? Not we, let it be set down. We are not at all partial to the 'popular songs of the day,' but when we are sick it's the kind of singing we call for. None of the resigned-to-death kind for us while there's a fighting chance to recover.

"The Wichita hospital idea is a fine one. People all over the country will want to get sent there when they are sick—or perhaps the same rule can be adopted in other like institutions."

A children's hospital will be erected early next year in connection with the Lynn (Mass.) Hospital.

QUERIES *and* ANSWERS

Gas-Oxygen Anesthesia.

To the Editor of THE MODERN HOSPITAL:

To what extent is gas-oxygen anesthesia replacing ether, and what are the essentials for its use? J. W. T.

At the Lakeside Hospital nitrous oxid-oxygen has displaced ether to the extent that all general surgical operations are routinely started with nitrous oxid-oxygen anesthesia, and in most cases this is continued throughout the entire operation. The ether attachment is, however, always on the gas machines ready for instant use, and, if surgical anesthesia cannot be produced readily with the gas alone, or if deep anesthesia is required at any moment, the ether is turned on for as long as is necessary and then the gas used alone again. Ether is always used in preference to suffocation with nitrous oxid. In some patients sufficiently deep anesthesia cannot be attained by the use of gas without reducing the amount of oxygen too far below the normal amount. For throat operations ether alone is often used and is given by the old cone and drop method.

The results of more gas and less ether in the hospital are less post-operative discomfort, vomiting, etc.; less irritation to eyes, nose, throat, and bronchi; less pneumonia and less shock, and also less dread of operations because of a lessened dread of taking the anesthetic and its after-effects. At the Lakeside nitrous oxid-oxygen anesthesia, with the addition of a little ether in the occasional case, is believed to be the safest and best anesthetic as well as the least unpleasant to take.

But it requires a more experienced person to give a good anesthetic with nitrous oxid-oxygen than with ether; the reflexes used for determining the condition of the patient are fewer and harder to interpret than in ether anesthesia. There is a smaller margin of safety, which makes any attempt to force the gas or hurry the narcosis distinctly more dangerous for beginners to attempt. Our house officers used to give fairly skillful and entirely satisfactory ether anesthesia, but they cannot give satisfactorily gas anesthesia. Professional anesthetists, expert in the use of nitrous oxid, are necessary. In the hands of a novice gas anesthesia is more dangerous and less satisfactory than ether under the same conditions. An even flow of pure gas at constant pressure and at room temperature is also essential for good gas anesthesia. This we secure by storing the gas in the basement in stationary tanks at not over 150-pound pressure at least twelve hours before it is used. Each tank holds a day's supply, and is tested for purity before use. On each of our two tanks are reducing valves, releasing the gas evenly at 35-pound pressure, and the gas is conducted to the operating rooms by open piping. We fill one tank and use from the other on alternate days. We manufacture our nitrous oxid, and, through the interest of Mr. H. M. Hanna, are able to give the process painstaking attention and to experiment with methods and apparatus in an effort to improve on the process of purification and to devise the apparatus for an absolutely safe method for the manufacture of the nitrous oxid gas in hospitals. At present we do not recommend that hospitals manufacture gas, except as an experiment, as the apparatus and methods now in use are neither safe nor economical in the hands of the inexperienced. We recommend the purchase of nitrous oxid in large cylinders (3,200 gallons compressed to liquid form), and that stationary tanks be filled from these at low pressure (100 to 150 pounds) and used as above. The use of small or high-pressure tanks in the operating room will never be entirely satisfactory.

A. R. WARNER,
Assistant Superintendent Lakeside Hospital, Cleveland.

Care of Hospital Flooring.

To the Editor of THE MODERN HOSPITAL:

1. What is the best disinfectant and the best cleanser for the average patent flooring for hospitals?
2. What is the best way to treat battleship linoleum as a hospital flooring?

MRS. C. J. BEGGS,
Puunene Hospital, Puunene, Maui, Hawaii.

1. We are not quite sure what you mean by "patent" flooring. There are perhaps fifty varieties of composition and granitoid floors, with trade names, copyrights, and patents. These floors have either a basis of cement, with chips of granite mixed in, or they have a basis of oil and cork or sawdust. These latter floors are sometimes called plastic linoleum, and have not been used long enough to determine their acceptability. In the September number of THE MODERN HOSPITAL we discussed somewhat the granitoid floors, one variety of which is called "terazzo."

The care of these floors is practically the same in the two cases. Soap and hot water are the best possible disinfectants and cleansers, and, if these can be applied with an old-fashioned scrub brush, with the worker on her knees, the work will be done more satisfactorily than otherwise. There is very little value in the chemical disinfectants, such as bichlorid solutions and the phenols, as applied to floors; these would be good if there were pores and hiding places for microorganisms, perhaps, but even in that event these pores would have already been filled up by pastes made of dirt and water, and disinfectants would probably not penetrate. If your floors are porous, they had better be well covered with one of the cement waterproof paints; if terazzo or impervious lithics, soap and hot water.

2. Dr. Howard, superintendent of the Peter Bent Brigham Hospital, is in the habit of leaving his battleship linoleum floors uncovered for about a year after they have been laid, and then he varnishes them with ordinary spar varnish and treats them just as he would a maple or oak floor. In some places these linoleum floors are waxed, and this is excellent treatment if the process can be renewed every two or three weeks. The wax can be polished with heavy weight polishers.

The medical department of the Medical College of Virginia at Richmond has asked the city authorities for a $500,000 new city hospital to be affiliated with the school. There are many hindrances, and the matter has been deferred to a later date. Everybody seems favorable to the plan if the city felt able to devote the necessary amount of money for the new buildings. Joint committees of the city and school will now see if the scheme can be worked out.

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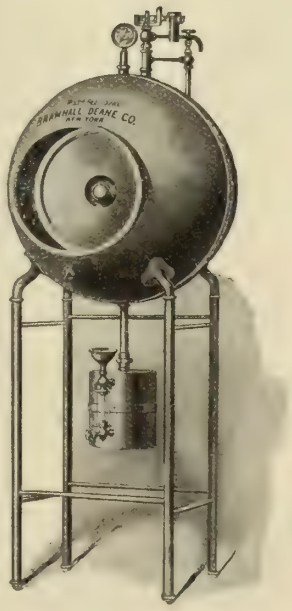

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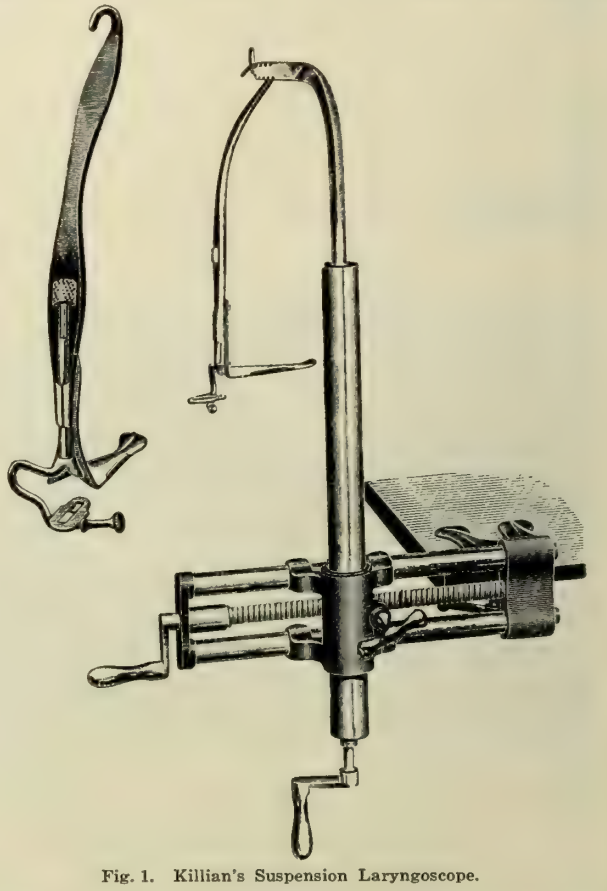

Fig. 1. Killian's Suspension Laryngoscope.

rotated to one side if necessary. On the horizontal arm is the adjustable vertical suspension hook. The instrument is also provided with a tooth-plate to fit behind the upper incisor teeth in order to prevent the spatula from gliding out of the mouth. As a source of illumination the ordinary head-mirror, the Klaar reflector, or small electric lights attached to the instrument may be employed. Suspension laryngoscopy may be conducted either under local or general anesthesia. As a rule, local anesthesia suffices for adults.

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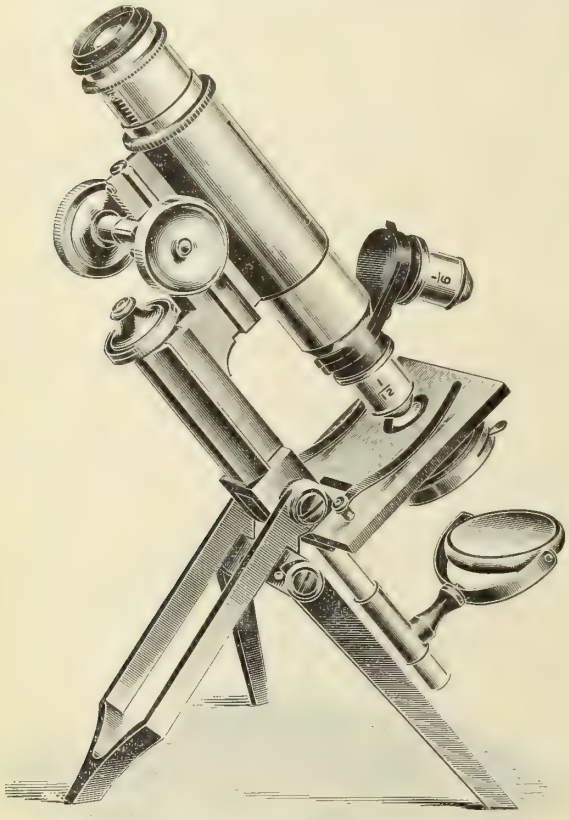

Fig. 1. Traveling microscope in position.

case will be only 2 inches longer. The microscope is constructed of brass and bronze throughout, and its lightness is not caused by any thinning of the metal parts, but is the result of an extremely ingenious design. It is provided with a coarse adjustment, operated by a diagonal rack and pinion, and with a micrometer screw of the critical focusing of a 1/12-inch, or even 1/16-inch or 1/20-inch immersion objective. The optical tube slides in a lined fitting, so as to allow the use of extremely low-power objectives, which permits a 4-inch objective to be employed. The draw-tube, which is nickeled, is divided to millimeters, and can be extended from 115 to 200 millimeters. With the exception of this nickeled tube, the stand is lacquered bright throughout and is of pleasing appearance. It is stopped in the vertical position, and can be swung back to the horizontal. Both plane and concave mirrors are fitted, and are swung so that light from any direction can

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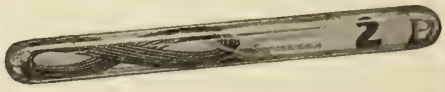

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be used. Normally, the under side of the stage carries a tube into which the condenser and iris diaphragm slide, but a screw focusing substage can be fitted if desired, and this substage can be provided with centering screws, a refinement which is strongly recommended, particularly if an achromatic condenser be fitted. This substage forms an integral part of the stand, and in no way increases the size of the case. The slides of the main stage are grooved for the reception of an attachable mechanical stage that can be added at any time by the user, there being no need to send the microscope or even its serial number to the

Fig. 2. Traveling microscope in case.

makers. This mechanical stage has a horizontal range of 2 inches and a vertical range of 1 inch. The upper surface of the main stage has a small white dot on its left-hand side, and if, when using the mechanical stage, an interesting part of the object is found and a mark is made on the slide over this dot, the same position can always be located. As this dot is in identically the same position on all stands, whatever is found on one can be located on any other. This is of the greatest convenience if two persons are working at a distance and desire to examine and criticise certain parts of the same object.

The Elsberg Apparatus for Intratracheal Insufflation Anesthesia.

To Meltzer and Auer the medical profession is indebted for developing and perfecting intratracheal insufflation anesthesia, and, according to Dr. Meltzer, "Dr. Elsberg, of the Mt. Sinai Hospital, of New York, was the first to introduce the method in human surgery." The accompanying illustrations represent the improved Elsberg apparatus for intrathoracic work and for administering anesthetics by the intratracheal insufflation method. The apparatus may be briefly described as follows:

The motor-driven rotary pump (X) forces air first through the air receiver and oil separator (Z), which eliminates the oil from the air stream as it emerges from the pump. The air is further purified, and at the same time warmed and moistened, by passing through warm water in the copper wash tank in its compartment (G). This tank should be filled about two-thirds full of warm water, a volume large enough to retain its heat for a considerable length of time.

The ether regulating valve (R) is designed to shunt the air stream in varying proportions through the ether chamber (M). When the index is over the word "air" on the scale, the ether is completely shut off and the apparatus

The Barnard Free Skin and Cancer Hospital, St. Louis, Mo. Mauran, Russell & Crowell, Architects; Edward Ward, General Contractor; Herman Niehous & Son, Plastering Contractors.

Sanitary Steam Proof Inner Walls

The Sanitary features, the enduring quality of Best Bros. Keene's Cement, combine to make it *the ideal plastering for the modern hospital.*

It will stand up under the sterilization process. Hot steam and antiseptic washes have no effect upon it.

It is pure white in color ALWAYS. Becomes harder with age.

Best Bros. Keene's Cement

"The Plaster That Stands Hard Knocks"

The one plaster that high-class contractors will guarantee for finish work over concrete.

Its use insures a finish that will not crack or fall off.

Can be enameled effectively without the use of base or filler, which other plaster requires and which causes enamel to peel.

Best Bros. Keene's Cement has been used extensively in government work for over twenty years.

Send Postal for "The Inner Wall"

—a booklet giving characteristics, uses and names of buildings where this famous cement was used.

Write us for our specifications which will insure perfect work.

THE BEST BROS. KEENE'S CEMENT CO. Est. 1889

Dept. O—Medicine Lodge, Kansas

New York Chicago

WHAT YOU HAVE BEEN LOOKING FOR

THE use of lye (alkali) for cleaning purposes is of somewhat uncertain origin, as is also the record of when grease was first used to modify its corrosive properties, forming what we know as soap. Hospitals have long recognized the unsanitary composition of soap, and for this reason alkali diluted with water, known as sal soda or washing powder, has found much favor with them. But both of these products leave much to be accomplished before a pleasant as well as an efficient method of obtaining sanitation can result.

The discovery of bacteria also added to this task of inventing so desirable a material, but what man needs man will get, and in

Wyandotte Sanitary Cleaner and Cleanser

these desires are made a reality. Wyandotte Sanitary Cleaner and Cleanser is a dry white powder, cooling the skin and neutral to all caustic or corrosive tests. It is alkaline in reaction and positively inorganic in composition. It has unusually high detergent and deodorizing properties, and contains no preservatives or poisons. While unlike most other alkalies, it is a free and easy rinser.

Whenever cleaning is to be done—whether in the kitchen, in the surgical room, in the ward, on metal, glass, wood, or cement—Wyandotte Sanitary Cleaner and Cleanser does the work with equal efficiency.

When used on the hands, arms, or other part of the body, Wyandotte Sanitary Cleaner and Cleanser is cool and cleansing, leaving a sanitary aseptic condition.

Only by using this product can you form any adequate idea of its usefulness in the Hospital. Without exception, Hospitals that are already using it are much more enthusiastic in its praise than this bare description of its nature can possibly convey to you.

Do not hesitate because of the thought that it may be too expensive, for it is sold at so low a price that no Hospital can afford to be without it. Order from your regular supply house or write us for further particulars.

THE J. B. FORD CO., Sole Manufacturers, Wyandotte, Mich.

Surgeons' Gloves

"Stanley Royal Standard"

REASONS WHY—

1. QUALITY—Selected Para Gum.
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4. LENGTH—11 inches.
5. GUARANTEE—Sterilize more repeatedly than any other glove.

Made in all sizes and weights.

Smooth—Pebbled—also Seamed and Autopsy.

Stanley Supply Co.
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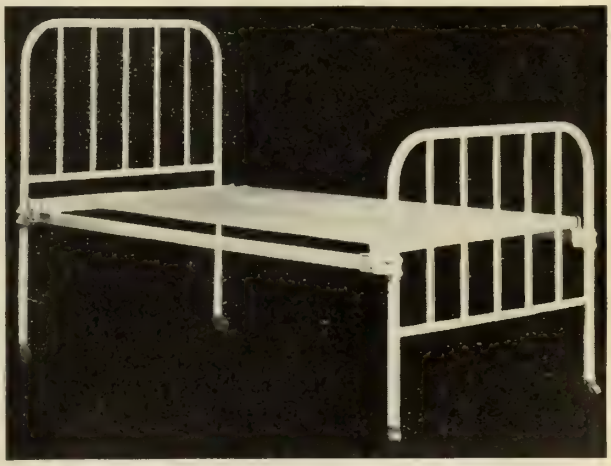
Institution Beds

Having Malleable Iron Locks
Guaranteed Unbreakable



Quality First Consideration

Well constructed and finely finished. Made with either Woven Wire or Link Bottom as preferred. High grade casters

Send for Catalog and Prices

Union Wire Mattress Co.
1100-1120 Blackhawk Street, Chicago

is delivering pure air, but as the index is moved over the ether divisions it indicates that the apparatus is delivering air and ether vapor mixed in varying proportions. For example, at 50 half of the air is saturated with the anesthetic and at 100 the entire air stream is becoming saturated.

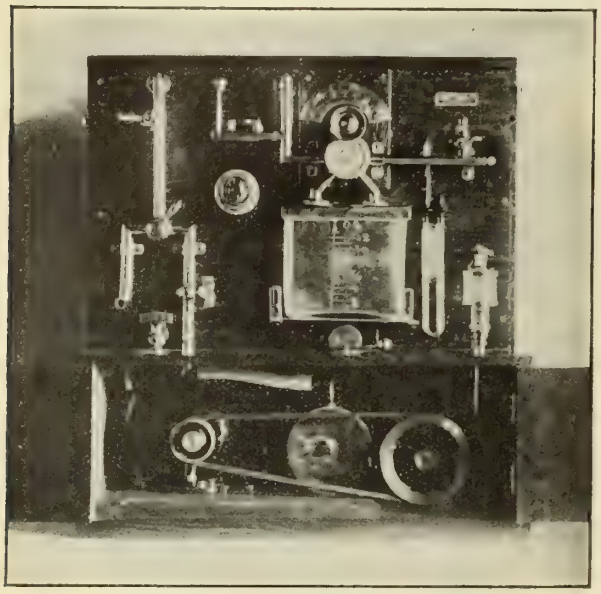


Fig. 1. General view.

The intratracheal tube is connected to the apparatus by a rubber tubing, supplied for that purpose, after it has been introduced the proper distance into the trachea. There are various methods and devices for introducing the tube, but a Jackson laryngoscope is usually found to be the most practical and convenient, and is quite generally employed. To facilitate the introduction, and to indicate

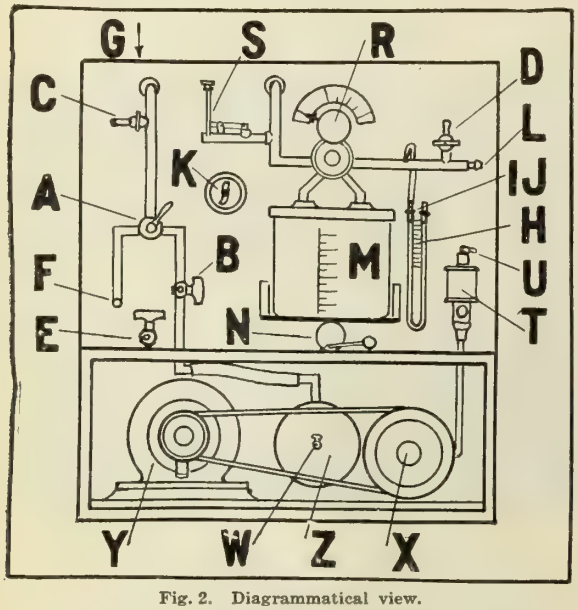
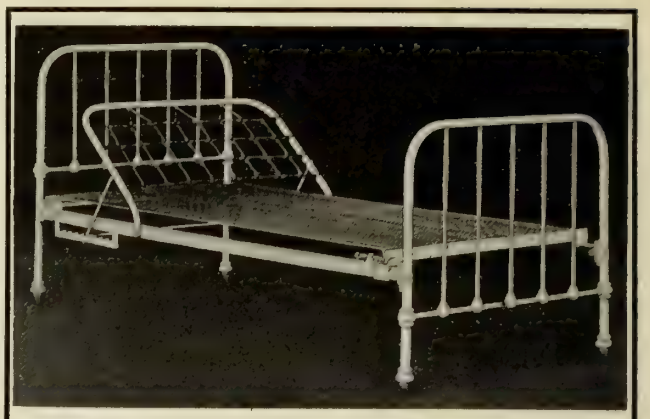


Fig. 2. Diagrammatical view.

with certainty that the tube is in the proper position, it is marked with two indelible rings. When the first ring is at the teeth it indicates that the end of the tube is at the glottis, and when the second mark is in line with the teeth the end is just above the bifurcation of the trachea. It is important to select a catheter of just the right size, six sizes being supplied with the apparatus. If the



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Are made strong and heavy. Three-piece construction; head, foot and springs. Springs are made with woven wire, National or Link fabric, and with angle sides or tubular sides. Malleable corner connections assure strength, rigidity and convenience in setting up.

We show many patterns in our catalogue and make special beds to any specifications. Write for a copy of our special institution bed catalogue.

No. 210
Hospital Bedstead with Headrest

Tubing 1 1/16 inches; cross rods ⅜ inch. Upright spindles ⅝ inch. Heavy angle frame, woven wire spring with spring stretching device. Regular height, 17 inches from floor. Furnished with or without headrest.

Foster Bros. Manufacturing Co.
Utica, N. Y. St. Louis, Mo.

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The Floor for the Modern Hospital

"Dreadnought" flooring, laid in squares, is recommended for corridors, wards, private rooms and executive offices of hospitals.

"Dreadnought" is sanitary, noiseless, non-slippery, and wonderfully durable.

"Dreadnought" has been selected recently for the following hospitals:

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The reasons leading to the selection of "Dreadnought" flooring for these hospitals would interest you.

Samples and full information free to anyone interested in a good flooring.

Dreadnought Flooring Co.
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have been installed in many of the finest Hospitals throughout the country, and they "fill the bill" every time

We have had 38 years' experience in manufacturing electric signals

We have just furnished the signaling system for this new Hospital at Wheeling, W. Va.

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It Is Sanitary—Laid with cove base, makes a jointless, hermetically sealed vermin-proof flooring.

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Its Adaptability—Can be laid over old or new concrete or wood. Best for stair treads, corridors, ward rooms. Not slippery, even when wet.

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Hospital Bed with improved sliding joint head rest; detachable irrigator staff; Buck extension wheel; eight pound wheel bed truck

Whitcomb Hospital Beds

are the result of the study of what hospital authorities demand. The practical experience of leading superintendents and physicians has been worked out in their design and construction.

Whitcomb standard patterns, the result of many years of experience, exactly meet the needs of virtually all hospitals, and we gladly make special designs to fill special needs.

Made throughout to the high standard of material and workmanship that gave Whitcomb Brass Beds their fame. Sturdy, safe, yet easily handled and taken apart. The most sanitary of all beds. An enamel that endures because baked on in four coats, in different temperatures and in separate ovens.

Whitcomb appliances for attachment to hospital bedsteads have the same fine construction and finish.

Write to our factory or to the display room nearest you for our hospital bed folder. Ask for list of hundreds of leading institutions that have adopted Whitcomb Beds. If you are interested in beds or cribs for the home, we will gladly send you, on request, a copy of our booklet "Choosing a Bedstead," or "The Mother Who Knows."

The Whitcomb Metallic Bedstead Co.

Factory, Shelton, Conn.

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Philadelphia, 1710 Chestnut St.
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catheter is too small, the return current is so rapid that the anesthetic is not absorbed properly, and consequently the anesthesia will be too light. If the catheter is too large, it offers too much obstruction to the return current, causing the intratracheal pressure to become too high, approaching that registered by the manometer. A 22 French catheter is usually the proper size for adults.

When the catheter has been properly introduced, the specially designed clamp is slipped over to hold it in place and prevent its displacement in case the patient should cough. It has also projections extending along the catheter and between the teeth to prevent its being closed at any time by the patient biting on it.

The manometer (H) reads directly millimeters of mercury, indicating the pressure at which the apparatus is delivering the etherized air, the intratracheal pressure being usually one-fourth of this amount. An average safe pressure for ordinary use is 20 millimeters (manometer reading). It may, however, be necessary to increase the pressure to 30 millimeters, but pressures much higher than this are dangerous. To prevent all danger of rupturing the lung, a safety valve (S) is provided, which, if properly adjusted, positively prevents accidents due to excessive pressure. The safety valve may be adjusted to blow off slightly in excess of the pressure to be used (say, 5 to 10 millimeters more). The pressure in the entire apparatus is regulated by the stop cock (B), which exhausts the excess. To cause momentary interruption in the air stream and allow the lungs to partially deflate, the stop cock (D) is opened and closed, which should be done a number of times a minute. When the stop cock is opened, the pressure falls, but is instantly brought back to the original pressure on closing it.

To make the apparatus absolutely safe, the foot bellows should always be connected for immediate use in case the electric power fails, when, by throwing over the lever of the valve (A), the operation proceeds without interruption.

Should it be desirable to use oxygen or nitrous oxid in connection with the Elsberg apparatus, connection with the cylinder of compressed gas may be made through the stop cock (C) attached for that purpose.

Underfed School Children.

It is a common saying that under our present mode of living we eat too much. No doubt it is true, applied to adults, but the reverse seems to be the case with children. Mothers all over the land know how difficult it is to coax their children to eat breakfast. They know, too, that these same children get hungry between meals—on Saturday, for instance, when there is no school.

Dr. Walter M. Roach, of Philadelphia, has contributed some interesting facts on this question of school children's food. Perhaps Dr. Roach had in mind more especially those children who had little to eat at home, rather than those who refused to eat so soon after getting out of bed; but the facts are interesting nevertheless.

Dr. Roach's report concerned school children in some of the poorer quarters of Philadelphia, ranging from 6 to 14 years of age. Many of the children were found to be coming to school with insufficient or no breakfasts. The children were fed for a period of four weeks in the spring of 1913 at the morning recess period with some form of cereal and milk, the form of cereal being changed daily. In all, 113 children were fed in this manner. In a group of 50, who were carefully weighed, measured, and physically examined before the beginning of the feeding and afterward, it was found that there was an aggregate gain

The Most Restful Light for Hospital Illumination

The soft, mellow, evenly diffused light of the Eye Comfort Lighting System is a most soothing and restful feature of hospital life for the patient.

There's no irritating glare—no eye strain—no deep shadows—just a soft, even light.

THE EYE COMFORT LIGHTING SYSTEM

is indorsed by leading hospital authorities as the most satisfactory system yet devised for efficient hospital lighting. Built on scientific principles, the strong light rays are directed from powerful opaque reflectors against the ceiling, producing a soft daylight effect.

Special hospital fixtures are finished in dull white enamel for private rooms or wards. Lights operated by electrolier pull switch—give varied degree of light from dim to full power. Easily cleaned—very sanitary.

Send today for further information. Let us tell you what St. Mary's Hospital, Rochester, Minn.; Samaritan Hospital, Youngstown, Ohio; Toronto General Hospital, Toronto, Ont.; Isolation Hospital, Milwaukee, Wis.; St. Agnes Hospital, Fond du Lac, Wis.; Harper Hospital, Detroit, Mich., Milwaukee General Hospital, Milwaukee, Wis., and others think of Eye Comfort Lighting for hospitals.

NATIONAL X-RAY REFLECTOR CO.

General Offices, 249 W. Jackson Boulevard, Chicago

New York Offices, 24 W. 33d Street

Hospitals Are Buying Lungmotors

Look at This Record

Our Pittsburg, Penn., representative, Smith N. Fowler, 4259 Fifth Avenue, up to Thursday, October 23rd, had visited six (6) Pittsburg Hospitals and made demonstrations to the Surgeons and Superintendents.

Four Out of Six Bought The Lungmotor

The fifth said: "Every one of our Surgeons and Attendants who have seen the Lungmotor endorses it. We will advise you soon how many."

The sixth said: "We have just bought a charged tank driven respirator, but, if they will let us cancel the order, we will buy the Lungmotor. It is so very simple, gentle, yet positive, and can always give air. We hope we can cancel the other order."

Every Hospital Needs— Should Have—

The Lungmotor

Send for Full Information Today

The Lungmotor is based upon experience and scientific data furnished by men with world-wide acknowledgment of their respiration research. It is designed and made by skilled mechanics who know the value of simplicity, sureness and lightness.

The Lungmotor is always ready to give the subject air—oxygen also, if you have it in any form. You can give any mixture of air and oxygen by a twist of a thumbscrew.

The Lungmotor is instantly adjustable from new-born to largest adult.

Life Saving Devices Co.

1380 Chamber of Commerce Chicago

of over 252 pounds. But, as stated in the report, the increase in weight from a given amount of food in the time mentioned was not the chief advantage gained. Some of the children gained little or nothing in weight, but it was found that they all improved in color, increased in hemoglobin percentage, gained in spirits and activity, and were less nervous and irritable.

Those Dreadful Germs.

Sir J. Crichton-Browne, in a recent address before the Sanitary Inspectors' Association of London, talked about the germs lurking in dust of all kinds. "Town dust," he said, "was most to be feared as a carrier of pathogenic germs and microbes of many kinds which can resist drying and may be wafted about with the particles. So catarrh, influenza, hay fever, etc., may be disseminated. Tuberculosis, too, is similarly spread in the dust of the dried sputum. In all dust the danger of implantation of germs, fresh or dried, is enhanced if associated with corrosive, chemical, or mechanically wounding elements. Sharp particles of mineral matter may plow up a way in the tissues through which pathogenic germs may enter. Even tetanus might be caused by road dust carrying it to some superficial wound, for the organism lives in the alimentary canal of the horse, and so is found in the manure of street refuse as well as in the soil of gardens and other places. The tetanus antitoxin is efficacious if used immediately, and in these days of dust-scattering motors the president suggested that a tube of antitoxin might well form part of the furniture of a car, so that in case of accident it might instantly be administered if any wound comes in contact with the dust.

Baby Hygiene in Boston.

The Boston Milk and Baby Hygiene Association has published its report of work for the past year. There are some interesting items; for instance, there were 206 weekly conferences for mothers during the past summer, at which a total of 4,361 babies were present, an average of 21 babies at each meeting.

On September 28, 1912, 83 mothers knew how to modify milk at home. A year later 403 mothers, a gain of nearly 400 percent, had been trained to do this by the nurses. At the end of the summer a year ago 479 mothers were dependent on formulas made at the dairy. Now only 151 are using them.

Hens to Hustle for the Hospital.

"Some lady has suggested that all the people in this section give the eggs laid by their hens on Sunday to the Shelby Hospital, and it may be that this movement will grow and spread like wild fire," says the Cleveland *Star*. "It ought to. Dr. Hamrick gives thousands of dollars worth of service to charity each year. The burden falls on his shoulders, and it is too much for one man to bear. The public should share with him in these charity cases, and, since there is no charity ward maintained by any organization, it would be well for the public to help in every way possible to lighten the burden that falls on the hospital. We think it would also be a gracious and satisfactory act if the town council could see fit to give free lights and water to the hospital, which, although privately owned, is as public and necessary as our schools and churches for the particular work it does. The 'Sunday eggs' movement is a splendid idea. Nobody would miss the little gift, and it would be a unique way of lending material support to the institution."

℞: Billiards

The Best Prescription for Neurasthenic Patients

The foremost specialists in nervous disorders are prescribing BILLIARD PLAYING.

Many hospitals and sanatoriums are installing billiard and pocket-billiard tables for the use of "neurasthenics" and convalescents.

The entertainment and exercise are highly beneficial.

The necessary mental concentration makes patients forget their ILLS.

BRUNSWICK Billiard Tables

are used exclusively by the billiard experts of the world.

Made in many styles; sold direct from factory at very moderate prices.

Special Proposition to Hospitals and Sanatoriums

We are offering special concessions on Billiard Table Equipment to Hospitals and Sanatoriums.

Send coupon or letter for Illustrated Catalog, prices, terms, etc.

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Department LB, 623-633 South Wabash Avenue,
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Please send Catalog of Brunswick Billiard and Pocket-Billiard Tables, with special prices and terms to Hospitals.

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GRISWOLDVILLE GAUZE is undoubtedly the BEST in its field of work. For nearly ONE HUNDRED YEARS the GRISWOLDVILLE MANUFACTURING COMPANY has operated its mills in Massachusetts, spinning its own yarns, weaving and finishing its own cloth—continually on the alert to improve its products.

QUALITY is the first consideration.

GRISWOLDVILLE QUALITY combined with GRISWOLDVILLE SERVICE and ECONOMY in production are a combination that will insure you against GAUZE troubles of any kind.

Insist Upon Securing

Griswoldville Gauze, Crinoline and Bandages

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GRISWOLDVILLE MANUFACTURING COMPANY

75 Worth Street **New York City**

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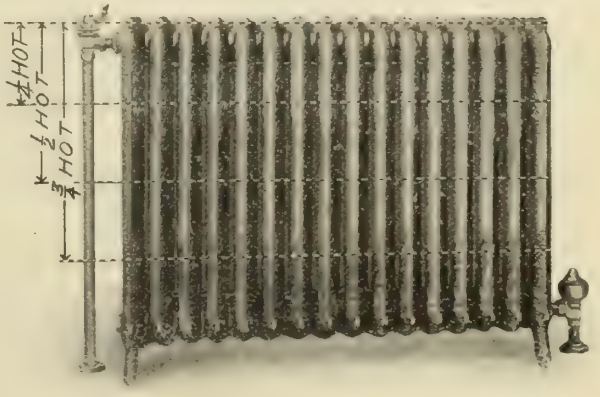
System of Heat Modulation

Tested for Fuel Economy

Prof. H. W. Spangler, of the University of Pennsylvania, conducted tests of the Thermograde System in the winter of 1905. He showed an actual fuel saving of 34 per cent.

All the new University buildings, including the Hospital, have been equipped with the Thermograde System since this test.

You may have a reprinted copy of Prof. Spangler's report, describing the method of testing and the results. (And this test, by the way, was absolutely a disinterested one.) You may also have a descriptive Thermograde booklet.



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Jackson Boulevard, Chicago, Ill. **Represented in All Principal Cities**

CLASSIFIED ADVERTISING.

Under proper headings this column will present advertisements of Positions Wanted, Help Wanted, Articles for Sale, etc.

When requested, replies will be received at the business office of THE MODERN HOSPITAL, Metropolitan Building, St. Louis, and will be forwarded promptly to the advertiser.

The charge is $1.00 for 30 words or less, and 3 cents for each additional word. For the convenience of both advertisers and publishers, classified advertisements are payable in advance.

POSITIONS WANTED.

WANTED—Superintendency of large general hospital where executive ability and a good financier is required, by a graduate registered nurse of years of experience. At present superintendent of 100-bed hospital. Salary must be liberal. Address Hospital Superintendent, THE MODERN HOSPITAL.

WANTED—Position as traveling companion, or nurse to an invalid, by a young man twenty-three years of age, who has had extensive traveling and hospital experience. Excellent references as to character and ability can be furnished. Address Herbert E. West, Hotel Statler, Cleveland, Ohio.

WANTED—Position as superintendent of a hospital of 100 beds or less. Am R. N. of experience, post-graduate of the executive course of the Massachusetts General Hospital. Have excellent health, and can bring authoritative letters as to qualifications. Address D. C. L., THE MODERN HOSPITAL.

WANTED—Position as superintendent of nurses or to take charge of sanitarium. At present employed. Experienced, enjoys teaching, good disciplinarian. Salary, $100 a month. Address Registered Nurse, THE MODERN HOSPITAL.

WANTED—A surgical nurse wants position in busy hospital. In present position three years, excellent credentials, 28 years of age, registered. Apply to P. W. Behrens, superintendent Lake Forest University, Lake Forest, Illinois.

HELP WANTED.

WANTED—Agents wanted in all countries to demonstrate and to take orders for the Lungmotor, a safe mechanical respirator, applicable in any case where artificial respiration is indicated. Address Life Saving Devices Company, 1380 Chamber of Commerce Building, Chicago.

WANTED—Graduate nurses desiring institutional positions. We have calls for nurses from all parts of this country. If interested in hospital positions, write us today. Aznoe's Central Registry for Nurses, 501 East 34th Place, Chicago.

WANTED—Subscription agents, men or women, to solicit subscriptions to THE MODERN HOSPITAL. Must furnish satisfactory references. Good territory open, and permanent employment offered on salary basis to competent representatives. Address Subscription Manager THE MODERN HOSPITAL PUBLISHING COMPANY, St. Louis.

FOR SALE.

FOR SALE—Automobile ambulance. High grade gasoline car, made to special order, but never put in service because purchaser selected larger and heavier model. Will sell at slight reduction. Guaranteed for service. Address Auto-Ambulance, THE MODERN HOSPITAL.

MISCELLANEOUS.

THE HERON NOISELESS CASTER—A distinct advance in equipment. Let us send you a set on approval. Heron Manufacturing Company, Utica, N. Y.

HOSPITAL EFFICIENCY CONSULTANT—A. E. P. Rockwell, M. D., 248 Main street, Worcester, Mass. Surveys made of the organization, construction, and administration of hospitals and similar institutions. The raising of funds, social service efficiency, and hospital inspection especially studied.

HOSPITAL GARMENTS—Order hospital garments, made to order, direct from maker. Operating gowns for doctors and nurses, and coats and trousers for doctors and attendants. Our duck goods are steam shrunk before they are cut. Send for our illustrated catalogue and samples of cloth. Elmer A. Gore, 154 Front Street, Worcester, Mass.

WATERPROOF HOSPITAL SHEETING—Our waterproof hospital sheeting contains no rubber, and will stand several boilings. Send one dollar for trial full-sized sheet. Quincy Tucker, 43 Tremont Street, Boston, Mass.

COMPLETE EQUIPMENTS—We specialize in complete equipments of hospitals, sanatoriums, etc. Our products are recognized as being of the highest quality, and entire satisfaction is guaranteed. The Kny-Scheerer Company, 404-410 West 27th Street, New York.

SANITARY APPLIANCES AND HYDROTHERAPEUTIC EQUIPMENT—We manufacture not only a general line of hospital sanitary appliances, but also a number of hospital specialties that will insure cleanliness and prevent infection. Our hydrotherapeutic equipment is of a character that will appeal to the management of any hospital as being practical and efficient. Write for a catalogue illustrating our specialties for hospitals. The J. L. Mott Iron Works, Fifth Avenue and 17th Street, New York.

CATALOG OF HYDROTHERAPEUTIC APPARATUS—Our hospital catalog will be sent if you are interested in hydrotherapy. Address James B. Clow & Sons, Chicago.

KORKSTONE PLASTIC FLOORING—A flooring that is sanitary, fireproof, quiet under tread, durable, and economical, is worthy of consideration by hospital administrators. Samples and booklet will be furnished. Address Williams-Wendt Company, 118 North La Salle Street. Chicago.

Classified advertising continued on page 40.

RIPOLIN

Enamel Paint

THE UP-TO-DATE HOSPITAL USES

RIPOLIN

1st —Because it is sanitary.
2nd—Because it is easily cleaned.
3rd—Because it is beautiful.
4th—Because it is durable.

For twenty-five years the hospitals of Europe and for fourteen years those in America have been steadily using more and more Ripolin. If you have never used it, apply to any prominent hospital architect for his opinion or ask some of your colleagues in regard to it. Better still, write us and tell us your paint problems, describing the conditions you have to meet, and let us give you special specifications—then make a test. We know the result will please you.

J. A. & W. BIRD & CO.

90 Pearl Street, Boston

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Our **Extra Heavy Round Thread** and **Sampson** Hospital and Institution Sheets and Pillow Cases are being used by leading hospitals throughout the country with universal satisfaction.

Samples and quotations cheerfully furnished on request

H. W. BAKER LINEN CO.

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NEW YORK

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical and Nursing Services

Vol. I — December, 1913 — No. 4

ORGANIZATION OF DEPARTMENTS OF A LARGE GENERAL HOSPITAL.[1]

Showing the Manner in Which the Hospital, the University and the Medical School Are Bound Together by a Board, Advisory Board and Medical Board.

By RUPERT NORTON, M. D.

ASSISTANT SUPERINTENDENT, JOHNS HOPKINS HOSPITAL.

As the relationship of the Johns Hopkins Hospital to the Johns Hopkins Medical School and University is not generally understood, it is well to refer for a moment to the foundation of the hospital to make these points clear.

It was due to the remarkable foresight and wise thought of Johns Hopkins that he indicated to the first trustees of the hospital the future role of the hospital as an integral part of the university, as expressed in the following quotation from his letter to the trustees, dated Baltimore, March 10, 1873:

> "In all your arrangements in relation to this hospital you will bear constantly in mind that it is my wish and purpose that the institution shall ultimately form a part of the medical school of that university, for which I have made ample provision by my will."

A close bond has existed since the beginning between these two foundations of Johns Hopkins through the fact that there are common members on both boards of trustees. At the present time there are three gentlemen who serve as trustees to both the hospital and the university. In this way business which affects both corporations is easily transacted, since questions of common interest which come to one board can easily be brought before the other.

The affiliation of the hospital with the medical school is effected in another way. The professors of medicine, surgery, gynecology, and other clinical branches are made physicians or surgeons-in-chief to the hospital. The nominations for these positions on the hospital staff are made by the so-called advisory board and brought through the medical board—of which more in a moment—to the trustees of the hospital by the superintendent, who acts as the intermediary between the school and the trustees, who ratify all appointments. The nominations have also to be ratified by the university authorities, and this is accomplished through the medical faculty, which submits its proposals to the university trustees. In case some difference of opinion arises between the medical school and trustees of the hospital as to the wisdom of a nomination, it is taken up by a committee of both parties and settled. The medical board, of which I have just spoken, is composed at the present time of the professors of medicine, surgery, gynecology, obstetrics, children's diseases, psychiatry, and pathology, the two professors of clinical medicine and clinical surgery, and the superintendent. In addition to these boards and committees, there are two other committees on which the superintendent serves—the executive committee of the medical faculty, consisting of three members (the president of the university, the dean of the medical faculty, and the superintendent), and the committee on graduate instruction, also of three members (the dean of the medical faculty, the professor of medicine—at the present time—and the superintendent). It is not worth while here to specify accurately what the duties of these two boards are, and I mention them merely to indicate the intimate connection that the superintendent of the hospital has with the medical school. This, in a

[1] First of a series of eight papers on the organization and administration of a large general hospital, prepared under the direction of Dr. Winford H. Smith by his associates in Johns Hopkins Hospital.

few words, shows how these bodies are united and work together.

The full board of trustees of the hospital meets once a month with the superintendent, in his office at the hospital, and its executive committee meets also once a month two weeks earlier (or later) than the trustees at the same place. The morning of the day preceding the meeting of the trustees the medical board meets in the superintendent's office and submits to him all matters relating to the medical organization of the hospital (the care of patients, new appointment of interns, etc.) which demand the ratification of the trustees.

The superintendent, or active managing head of the hospital, is appointed by the board of trustees and is intrusted by them with the entire care of the hospital, the actual care of the patients being left to the physicians and their assistants (residents and interns). The superintendent has all the ordinary duties of such an officer to perform, and it is not necessary for me to enlarge on these, but merely to state and to emphasize the fact that the trustees *never interfere with his prerogatives, or give any orders except through him.* This is a point most worthy of attention, for many boards of trustees fail to appreciate what their own proper duties are, and are constantly and improperly interfering with the superintendent's work. The superintendent is the medium through whom all persons engaged and employed by him can reach the trustees, and only through him can complaints of any sort pass.

The superintendent has as his immediate assistants three men—one who relieves him of many of the details of administration, exercises general supervision of the work in the wards, and, in addition to a variety of duties, is also the editor of the hospital publications (The Johns Hopkins Hospital Bulletin and Reports); one the admitting officer, and another in charge of the outpatient department.

In charge of other departments of the hospital are (1) the superintendent of nurses, (2) the matron, (3) the dietician, (4) the engineer, and (5) the pharmacist. All these heads of departments have their assistants, selected by them. The superintendent selects his own immediate assistants and these five heads of departments, who in turn select their own staff without interference by him, though always with his approval. The superintendent holds a daily morning conference with all heads of departments individually.

The training school for nurses which Johns Hopkins so happily established was referred to in his original letter as follows:

"I desire you to establish in connection with the hospital a training school for female nurses. This provision will secure the services of women competent to care for the sick in the hospital wards, and will enable you to benefit the whole community by supplying it with a class of trained and experienced nurses."

The school now numbers 154 pupil nurses, calling for an administrative staff of 32. The staff includes the superintendent of the training school, her immediate office assistants, and the graduate nurses in charge of the wards. The office assistants have various duties, such as teaching, charge of the surgical supply room, observation of ward work, etc., of which more will be said in a forthcoming paper. The nurses' home is under the care of a housekeeper. The assistants and the housekeeper are all graduate nurses. In addition to the pupil nurses, we have a few post-graduate nurses studying in different departments (children's diseases, psychiatry, etc.); also some pupils of other schools in the city, and a large body—fifty, more or less—of special nurses with private patients.

The matron is also a graduate nurse. She has full charge of the laundry, through which pass weekly between 55,000 and 60,000 pieces, and of all the cleaning of the hospital, with the exception of the daily work in the wards (under the care of the superintendent of nurses) and the nurses' home. She has also to purchase all the housekeeping supplies, furniture, and bed linen for the interns' rooms, china for the dining rooms, and supplies of many sorts needed in different departments. Of necessity she has aids, but no nurses to help her, except as a part of a post-graduate course in administration.

The dietician trains the pupil nurses in dietetics; prepares, with her assistants, two in number, all the food for the private patients and special invalids in the public wards, oversees the butcher and baker, and has general control of the kitchen, the doctors' dining room, the help's dining room, and the purchase and distribution of all fresh and cooked food throughout the hospital. The nurses' home has its own kitchen, although all the requisitions for food pass through the office of the dietician. The menus for the nurses and the direction of the kitchen are under a trained dietician, an assistant of the dietician in the main kitchen.

The chief engineer is also superintendent of grounds. Under him are the men who run the hot-water and steam boilers, the electricians, the men who make the ice, and other employees, such as the elevator men and the gardeners.

The pharmacist purchases most of the drugs, as well as rubber goods, glass syringes, etc., needed throughout the hospital. With the help of his two assistants, he dispenses drugs in the

out-patient department, and also prepares some tinctures, ointments, etc. To the pupil nurses during the first six months of their three years' course he gives lessons in pharmacology and materia medica.

Our baggage room is under the direction of one of the assistant superintendents, as are the painter and the carpenter under another. All the ward orderlies and maids are selected and directed by one of the office assistants of the superintendent of nurses. The maids in the nurses' home are in the same way chosen and managed by the matron of the home, while all other maids, except those in the kitchen and dining rooms, are a part of the matron's department.

Thus it is seen that, so far as possible, the duties of the different departments are kept quite separate, and the head of each is held responsible for its proper administration by giving him or her full power to select his or her own help, and leaving the head to develop his department along the lines he thinks best, but subject to the approval of the superintendent. There is one essential control, however, which lies in the superintendent's hands, and that is the purse string. All requisitions for supplies of whatever nature—stationery, nurses' clothes, drugs, and matron's, dietician's, and housekeeper's needs, etc.—must all be authorized by him.

Of the bookkeeping office I have not said a word. It seems merely necessary to mention it, so that the readers may not think it forgotten. But the duties here are practically the same as those in the same office of other hospitals. The business affairs of the hospital corporation are transacted at the office of the corporation, which is not in the hospital, and from this office all bills are paid.

Such is briefly the administrative organization of the hospital, but before closing it may be well to add a few words in regard to the medical organization and the presence of medical students in our wards, since this feature is almost unique with this hospital, although in use by other hospitals with more or less modification.

Each staff—medical, surgical, gynecological, etc.—is under the immediate direction of the physician, surgeon, or gynecologist-in-chief. The chiefs are paid salaries, half by the university and half by the hospital. Each chief has his house staff, consisting of a resident (who is also paid a salary by the hospital), assistant residents, and interns. The number of members on each staff varies with the amount of work done by one or the other. Appointments are all for one year, but the residents are usually reappointed on the medical and surgical staffs, so that they may serve for two, three, or more years. There is no rotation of service—i. e., an intern appointed to one service serves his year's appointment on that service alone. The interns, with but very few exceptions, are graduates of the Johns Hopkins Medical School. A few men from other schools are from time to time selected to serve as interns, and are admitted on their past records without examinations. The residents are men who have, so to speak, risen from the ranks, serving first as interns and then as assistant residents, in which latter capacity on the medical side they may have had very broad experience as head of some one or more of the medical laboratories. The present resident staff, including three pathologists, consists of over fifty members. Women graduates of the medical school are selected as interns if they hold the necessary rank on graduation, and may serve in the medical, gynecological, obstetric, pediatric, and psychiatric departments. The medical staff is the largest, and will serve as an example of the composition of all. At its head is the resident, with six assistants and four interns. There are, in addition, four more residents in charge of the medical, bacteriological, chemical, and tuberculosis laboratories; and finally the clinical laboratory, in which the third-year students are taught the examination of blood, urine, feces, gastric contents, etc. The other staffs have not so many assistants, nor so many laboratory appointments.

At the end of the second year of the medical school curriculum, during the last trimester, students are permitted to work in the dispensary. Previous to this time they have had no connection with the hospital. In the third year their training is carried on still further in the dispensary, and in the fourth year they are admitted as clinical clerks to work in the wards under the direct control of the intern in charge of the ward. The fourth-year class is divided into groups, and each group in turn serves in the medical, surgical, gynecological, and pediatric departments. To these clerks are assigned definite duties by the intern—for instance, taking of histories, making blood and urine examinations, etc. Above the intern is the assistant resident and resident, and responsibility for the performance of duties falls thus ultimately on the resident, but he instructs his assistants as to what they are to do, and so is relieved of watching over all details.

During the last two years of the medical student's training he lives practically within the hospital, in close touch with patients. In the fourth year there are rounds in the public wards several days a week, conducted by the chiefs (physician, surgeon, etc.) or their associates, for the teaching

staff of the medical school consists of professors, associate professors, associates, assistants, etc.

It is impossible in this article to enter further into this branch of the hospital administration, but I may close by stating that, in spite of all the additional work and expense entailed by the presence of students in our wards, we rejoice to have them, and could not get on without them. They are of benefit to the patients and to the reputation of the hospital.

SOME SPECIAL FEATURES OF THE NEW COOK COUNTY HOSPITAL.

Nucleus of What Is to Be a 3,000-Bed Hospital—Ward Arrangement—Operating Department—Work Rooms—Radiographic Suite.

By RICHARD E. SCHMIDT, County Architect, Chicago.

THE new Cook County Hospital is not to take the place of the whole of the existing institution. The children's, contagious, tuberculosis, children's tuberculosis, morgue and service buildings, and boiler and engine houses are to remain, and a detention (psychopathic) hospital is being built at the south end of the grounds.

The new hospital building is to accommodate the administration rooms, operating department, 656 patients and 71 interns. The building extends along West Harrison street, between Wood and Lincoln streets, for a distance of 500 feet, with its main front toward the north. It has two ward pavilions, one adjacent to South Wood street and the other to Lincoln street, extend toward the south—i. e., their longitudinal axes are on north and south lines. Two additional similar pavilions were planned, but have not been placed under contract, and it is hoped that funds will be available early in 1914 to permit building these,

Fig. 1. Cook County Hospital—Administration front.

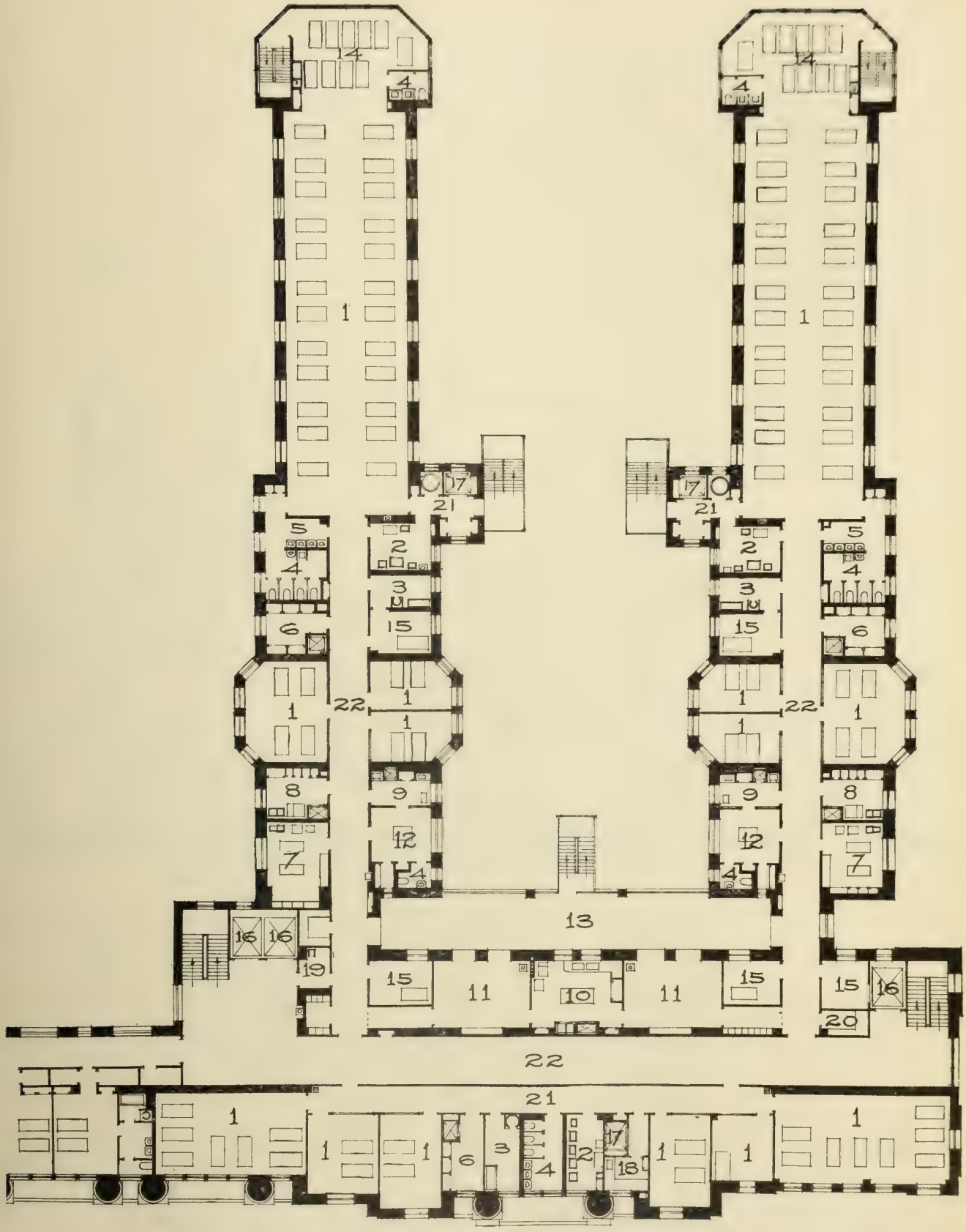

Fig. 2. Cook County Hospital—Plan of pavilions.

1, ward.
2, utility room.
3, bath room.
4, toilet.
5, wash room.
6, linen room.
7, dressing room.
8, diet kitchen.
9, medicine closet.
10, serving pantry.
11, dining room.
12, nurses' room.
13, porch.
14, solarium.
15, quiet room.
16, passenger elevator.
17, freight elevators.
18, laboratories.
19, mop closet.
20, surgical appliance closet.
21, passage.
22, corridor.

which will afford an additional capacity of 320 beds.

Inasmuch as it will be necessary to raze many of the old buildings if these two pavilions are built, all of the buildings on the grounds will then be of fireproof construction. The total normal bed capacity will be about the same as before the construction of the new building was begun, but there will be enough vacant space on the ground for the building of additional units to obtain an ultimate capacity of 3,000 patients' beds.

The ward pavilions have a first floor at the level of the ground, which is to be used for food and linen cart service to the dumb waiter and elevators, five floors upward, and a roof garden, with a bed pans, a large work sink, a utensil sterilizer, marble shelves, and a hand basin. Room 3 is a bath room, and will have a tub and shower bath. Room 4 is a toilet room, with water closets separated from the wash room, which is room 5. Room 6 is a linen room, connected to the ground floor passageways by a push button dumb waiter, so that linen need not be disturbed by carting around on the ward floors. Room 7 is a surgical dressing room, and room 8 a diet kitchen connected to the ground floor passageways by an electric push button dumb waiter. Room 9 is a medicine room, also connected to the ground floor by dumb waiter.

The plan contemplates the serving of food to

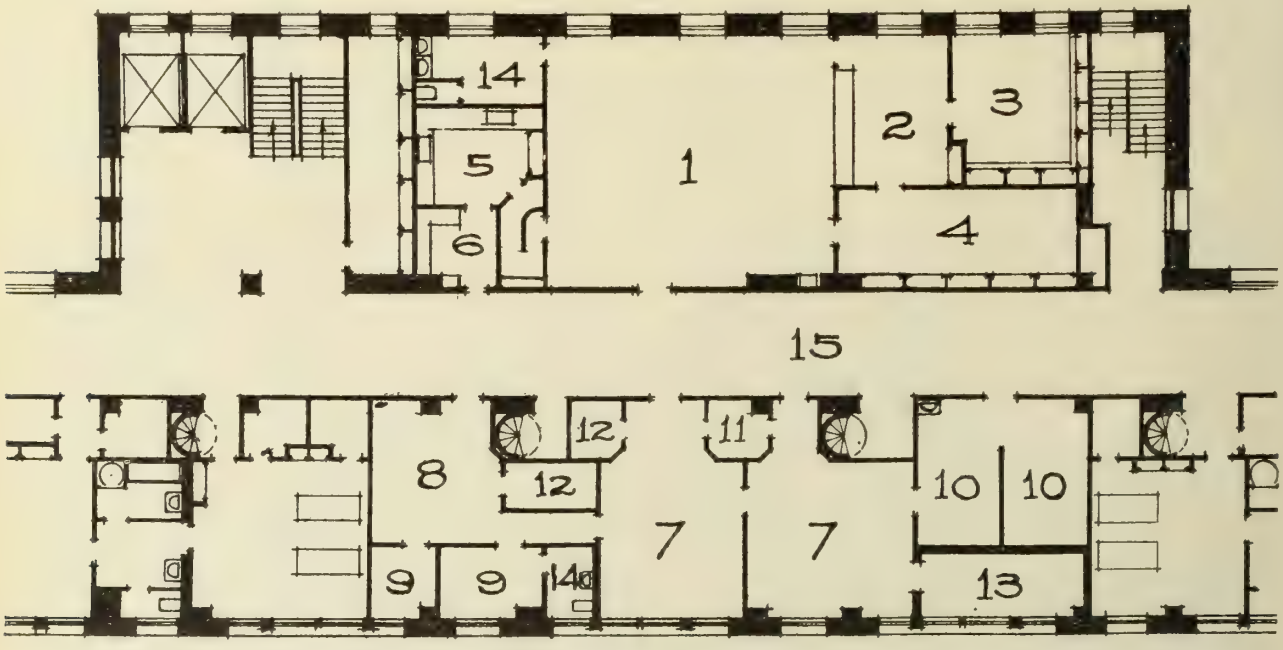

Fig. 3. Cook County Hospital—Radiographic suite.

1, waiting room. 2, office. 3, library. 4, consultation and exhibition room. 5, dark room. 6, supply room. 7, radiographic room. 8, fluorographic room. 9, preparation room. 10, treatment room. 11, operator's booth. 12, instrument room. 13, generating apparatus room. 14, toilet. 15, corridor.

roof sun parlor, toilet, and serving and dining rooms.

A plan of the pavilions is shown in the illustration (Fig. 2). It will be seen that the main wards are each arranged for 24 beds, and have a width of 27 feet by a length of 85 feet, with windows on two sides. A sun parlor is at the extreme south end of each ward, with an inclosed fire escape stairway and a toilet room. The sun parlors are divided from the wards by glazed accordeon doors, which will fold into pockets on each side of the opening. In addition to the main ward, each pavilion has one 4-bed and two 2-bed wards for more acute cases, or for patients who are likely to disturb other ward patients.

Room 2 (Fig. 2) is a utility or slop sink room, which will have the usual slop sink for cleansing each pair of pavilions from one serving room, marked room 10. The adjacent room, marked 11, will serve as a dining room for convalescent patients and ambulatory patients who assist in serving the bed patients with food. The length of the pavilion and distance from beds to auxiliary rooms seems greater than could be obtained by another arrangement, but the dimension area per bed and sunlighting are adequate. Room 12 is a nurses' office, with a nurses' toilet, lockers, closet, and book case. The porch marked 13 is also between the pairs of pavilions, and is designed for the use of the patients of both.

The portion of the north front of the building which is not used for administration and operating department purposes is divided into ward units, being from 22 to 30 beds each. Each unit

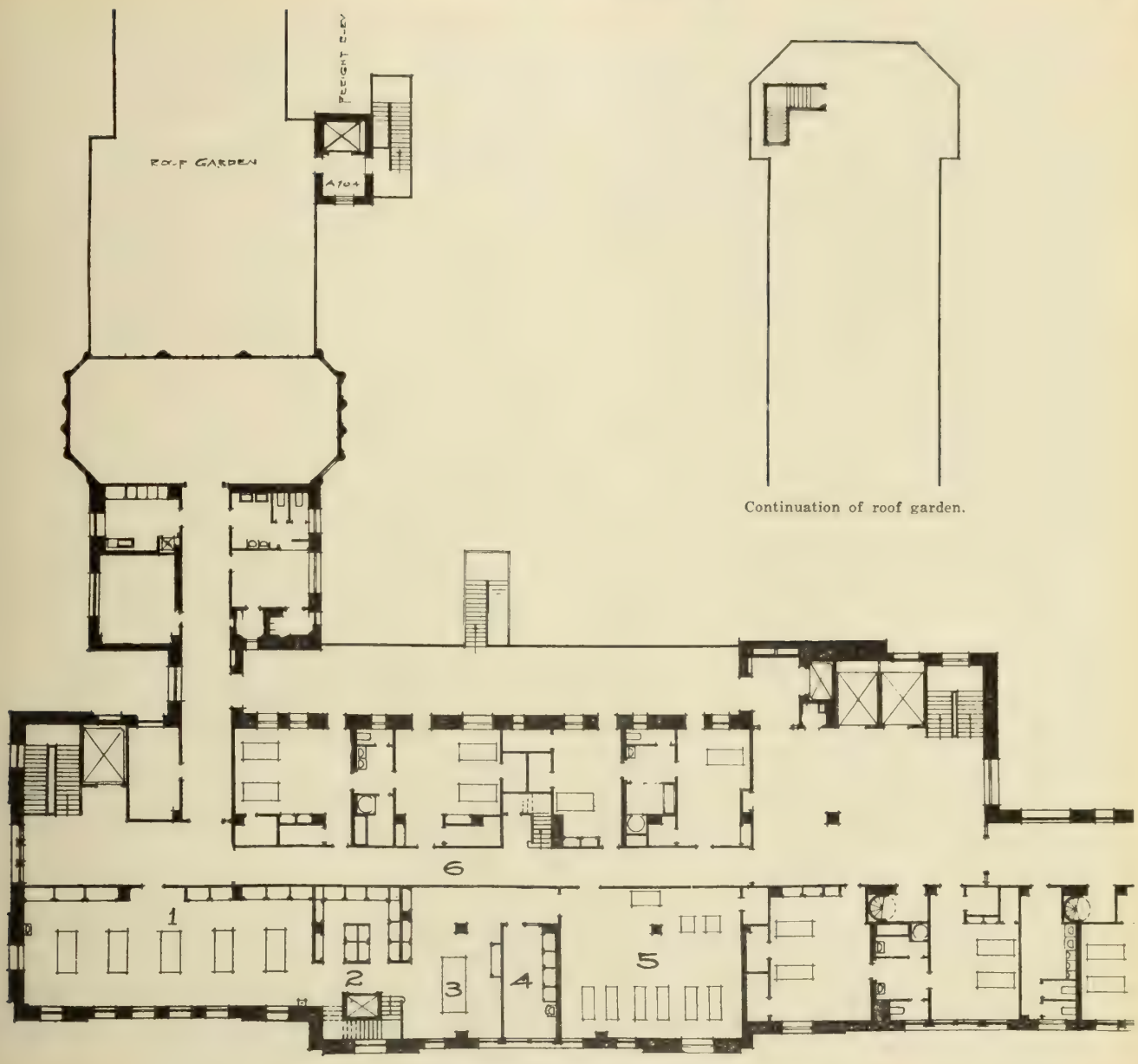

Fig. 4. Cook County Hospital—Work rooms and operating department.

1, work room.
2, linen room.
3, drum filling room.
4, bandage room.
5, general sterilizing room.
6, corridor.
7, passage.
8, sterile supply store room.
9, distributing room.
10, nurses' room.
11, nurses' locker room.
12, nurses' bath.
13, nurses' toilet.

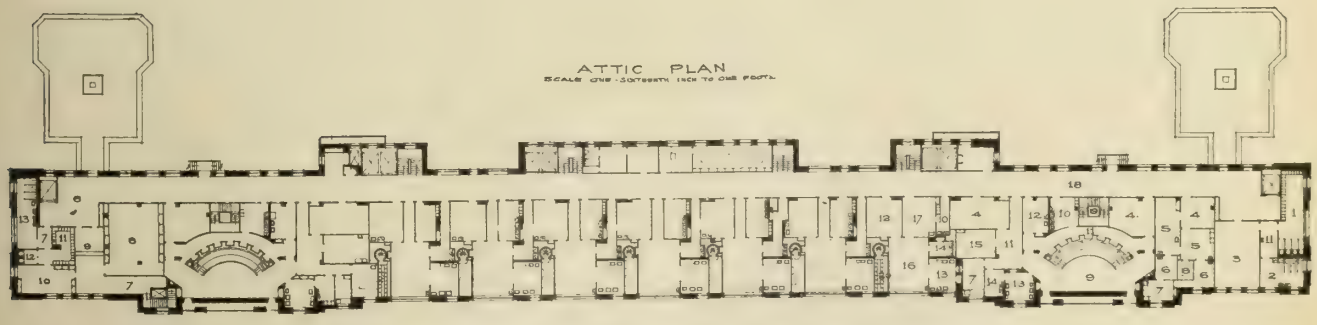

Fig. 5. Cook County Hospital—Operating department.

1, doctors' locker room.
2, doctors' toilet room.
3, surgeons' library.
4, waiting room.
5, examination room.
6, treatment room.
7, laboratory.
8, supplies.
9, clinic.
10, doctors' scrub room.
11, passage.
12, etherizing room.
13, sterilizing room.
14, nurses' scrub room.
15, dressing room.
16, orthopedic operating room.
17, plaster room.
18, corridor.
19, students' chair.
20, students' balcony.

is complete, having utility, bath, toilet, and linen rooms, and also a small laboratory.

The radiographic department is on the seventh floor, immediately below the operating department, and the key of the rooms in the accompanying illustration (Fig. 3) indicate the purpose of each room. The total space occupied is approximately 4,000 square feet, and appears to be a liberal and convenient arrangement.

Fig. 4 illustrates the work rooms of the operating department, having a general work room, linen room, drum filling room, bandage room, and a general sterilizing room. The latter is arranged to receive six 16 by 60-inch dressing sterilizers, set in pairs, and one large size salt solution sterilizer. This department is also in the seventh story, immediately below the sterile supply store room, distributing room. operating nurses' bath, and toilet and locker rooms on the eighth floor.

The eighth floor contains the operating department, and is shown in the illustration (Fig. 5). It occupies the whole length of the Harrison street frontage, with an area of approximately 31,000 square feet, an unusually large and spacious arrangement. It contains two amphitheaters, each having a seating capacity of 120 students, and 7 operating suites, each having an operating room 17 by 23 feet, and anesthetizing room, doctors' scrub room, stand or balcony for 16 students, sterilizing room, and nurses' scrub room. The two large amphitheaters have similar auxiliary rooms. The instrument room and instrument distribution room are centrally placed in the middle of the length of this department, across the corridor.

Students and other observers of operations are not to be allowed access to the operating room floor, but are to be taken to the seventh floor by elevator, and will there pass along the corridor to stairways which lead directly into the observing balconies or to the amphitheater seating in the two large clinics. There are no doors from these special stairs in the eighth story, so that no one can pass into it.

Tin-lined pipes have been laid from a central point to all basins, sinks, and water sterilizers in this department. A large water sterilizer or still is to be installed at a central point, pairs of 6-gallon water sterilizers are to be placed in each one of the sterilizing rooms of the nine operating suites, with faucets extending through the partitions and discharging water over a sink in the operating room. Each of these sterilizing rooms is to have a utensil and an instrument sterilizer.

The daylight illumination is from the north by adequate windows and skylights, and the floor equipment and lighting fixtures will be of the best modern materials and design, so that this hospital will have one of the largest and best operating departments in existence.

THE FUNCTION OF THE MODERN HOSPITAL IN PREVENTIVE MEDICINE.

Must Assume Relationship of Old-Time Family Doctor—Life Histories of Patients Are Key to Causes of Disease—Research Work Should Broaden Out.

By H. S. MATHEWSON, M. D.
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THE history of hospital development in the United States is of great interest when viewed from the increase in function which has taken place in the past one hundred and fifty years. Some years before the Revolutionary War, hospitals were established in New York and Philadelphia simply for the care of those who were sick or injured. A few years later insane patients were cared for on the ground that they were ill and needed hospital treatment, rather than confinement in jail or prison as incorrigible. Early in hospital development we see the field of the hospital as a place for the education of young medical men gaining recognition. At the foundation of the Massachusetts General Hospital here in Boston, nearly a century ago, provision was made for a certain number of house pupils, thus clearly recognizing the teaching function of the hospital. Well within the memory of most of us our hospitals awoke to the fact that trained nurses could not be had without schools in which training could be secured; hence followed the establishment in the hospitals of schools for the training of nurses.

The past thirty years has seen the gradual development of pathologic and bacteriologic laboratories in connection with our larger hospitals. The end sought, however, was the furnishing of aids to diagnosis to the attending staff, and only indirectly was any benefit to the patient involved. The careful preservation and indexing of case records so largely developed within the past few years may also be mentioned as rounding out the full stature of the ideal to date in hospital development.

At present, then, we find the modern hospital a highly specialized institution. It is fully equipped to treat all classes of patients, and neglects no means known to science to rapidly effect a cure and to return the patient to active life, able to cope with its problems. But is this enough? Has the hospital then discharged in full measure its duty to its patients? I believe not.

The world has been dominated for centuries by the theological idea that disease and injury are divinely appointed agencies. They are supposed to operate either as a punishment for man's sins or as a disciplinary measure to fit him to wear a crown and twang a harp in a better world. What, then, could the hospital do but receive the sufferer, mitigate to what extent it could the severity of his sentence, and discharge him with the injunction to return again when necessary. The introduction of vaccination against smallpox was not a little impeded in this country by thunders from hundreds of New England pulpits against such impious interference with the decrees of an offended God. We are just beginning to suspect that such ideas may not be entirely true. Any large city expends annually at the present time millions in combating disease, crime, and fire. How much is expended in prevention? Comparatively little. Yet a beginning has been made, and in that beginning lies the hope of better things.

More than twenty-five years ago the state of Massachusetts established the first sanatorium for consumptives, and in so doing has the honor of being the pioneer in the world-wide war against that disease. Incipient cases only were accepted for treatment. It was found, however, after years of experience that there was no diminution in the number of early cases applying for treatment. New cases of tuberculosis were constantly furnished by the contagion spread abroad by the late and chronic cases refused sanatorium treatment as unsuitable in that no hope of a cure could be entertained. An experience of three years in sanatorium work has convinced me that the most promising line of attack lies in the compulsory segregation of the ignorant and careless consumptive, and in the education and supervision of the intelligent consumptive, and in thus preventing infection of new subjects.

What is true in the case of tuberculosis may also be true in the case of many general systemic and local diseases. This field for investigation is a large one, and we turn with confidence to the hospitals of this country for its exploitation. Why should not the general and special hospital take part in a campaign for the prevention of all classes of diseases? You have the plant necessary. You have the cases in large numbers, and you have all the time between now and the end of the world. Institutions may and do survive for centuries, while the individual investigator has but a few years in which to work.

There are many lines along which the general hospital might work, and in so doing become an important factor in the great work of preventive medicine. Three suggest themselves for emphasis here, and in at least two of the three a tentative beginning has been made in many hospitals. I have in mind laboratory research, intensive study of carefully taken case records, and the education and reeducation of the patient.

As to the first of these, a little research work has been begun, in connection with routine ward work, by some of our hospitals for many years. This work, however, needs direction and intensification. This association might well take this matter up, and plan among its members a combined assault upon some problem in preventive medicine. At present too much desultory work is done which leads nowhere and is productive of results of no value. The general hospital has an opportunity in research work open to none other in the study of the rarer forms of disease, and this, too, should not be neglected. When the cause of a certain disease has been discovered and the pathology of the disease has been worked up, many investigators consider that problem solved, but in reality only a beginning has been made. A patient dead from pneumonia is little benefited by the knowledge that the pneumococcus has killed him by causing a purulent exudate into the air cells of his lungs. Let us go back of all that and try to discover the conditions under which the organism develops outside the body, in what manner it gains access to the body, and what conditions favor its development therein. Then, and only then, can measures be devised to protect ourselves from the attacks of this great destroyer.

Laboratory research work has furnished us with many unanswered questions. Among the most interesting of these are the variations in the action of disease-causing organisms in different cases. An answer to this problem may be found in some factor to be discovered in the life history of the patient.

Case histories, as at present taken in most of our hospitals, are practically worthless. They are taken by a junior member of the house staff in a hurried and perfunctory manner. There is no competent supervision of his work, and the case history often has no earthly relation to the diagnosis found at the head of the history sheet. Would it not be practicable to appoint a histographer on at least the staffs of the larger hospitals whose duty it should be to supervise all case rec-

ords? Proper instruction in history taking could be given the house staff, and assistance in filing and the making of references could be furnished the staff in the records room. A primary requisite for making these records available for study is that they be accessible, accurate, and aggregated in large numbers. Whenever a large number of histories of a certain disease become available, research workers could be detailed to study these records in search of the common factors having an apparent connection with the production of the disease in question or having a bearing on the treatment of the same. Many facts of important bearing on the etiology and incidence of disease doubtless lie buried in the records of our hospitals.

In 1894 Dr. R. F. Weir, of New York, performed at the New York Hospital the first operation for the relief of the condition known as surgical kidney. The patient recovered, and this hitherto fatal disease became amenable to treatment. A search of the autopsy records of the hospital made at that time by Dr. Weir's surgical staff showed a considerable number of cases of surgical kidney, which had come to autopsy in the preceding one hundred years, in which the condition was unilateral. These cases were operable. Had this been known, why should not this operation have been done many years earlier?

Recent investigations in the causation of beriberi have shown that the long-sought bacterial cause does not exist, but that the disease occurs in those who eat largely of polished rice. A rapid cure is effected in those suffering from this disease by injection of an extract made from rice polishings. Instances could be multiplied where the clew to the solution of problems in preventive medicine have been found in the case histories of a large number of patients of a given disease, and work along that line is most promising.

EDUCATION AND REEDUCATION OF THE PATIENT.

The hospital of late years has come to stand in the place of the family physician to many of its patients—that is to say, many of the beneficiaries have no family physician. The need, therefore, for the hospital to assume the functions of a family physician is apparent. This function cannot, for mere lack of time, be discharged by the attending physician or surgeon, who has or may have anywhere from 30 to 150 patients in his wards. It is a physical impossibility for him to discuss with each patient in his charge the factors having a causative influence in the production of the condition he is called on to treat. Why should not the hospital take up the education of its patients as a factor possibly of importance in preventive medicine? Many thousand persons pass annually a considerable time in our hospitals. Many of them are intensely interested in their conditions, and are lamentably ignorant of the fundamentals of right living. At present we treat, for example, cases of broken compensation in heart disease or an acute exacerbation in kidney disease. The patient is discharged "improved." We expect him to come back, and he does come back, often time and time again. Why should he not receive explicit instruction as to how to avoid a recurrence of his frequent breakdowns. Sanatoriums for the care of consumptives have made a beginning in this work. By means of printed matter, verbal instructions, and lectures to groups of patients we instruct them as to dangers of infection and reinfection, as to safe methods of the disposal of sputa and excreta, as to diet and mode of life, clothing, fresh air and exercise, and the many things which have been found to be of importance in the cure of consumption. Why should not this be taken up by our general hospitals and extended to cover many classes of disease?

In the last decade there has been an alarming increase in the incidence of the group of the so-called degenerative diseases of middle life. The expectation of life of a man of forty-five is actually less today than it was ten years ago, and this despite of the great advances made in the control of many diseases. The causative factors in the increase in degenerative diseases must be sought in the histories of a large series of such cases, and instructions formulated as to how the individual may escape the results of his own ignorance or folly. I know of no agency which can so well perform this service to the race as the general hospital. For many years it has been my custom to furnish certain intelligent medical cases on leaving the hospital with typewritten instructions as to diet, mode of life, etc., the observance of which might tend to prevent a recurrence of their illness. This procedure I believe to be of distinct value in cases of diabetes, Bright's disease, cirrhosis of the liver, and heart disease.

In any large hospital there may be observed any day a considerable number of patients on whose hands time seems to hang a bit heavily. Would it not be practicable to demonstrate to these in small groups something of the methods employed in the hospital for the prevention of the transfer of infection from one patient to another, for the disinfection of excreta, bedding, and dressings, the methods of preparing foods, of ventilation, etc. This could be supplemented by lectures on suitable hygienic topics and by printed matter bearing on the special disease from which the patient is suffering, and on the general requisites for a sane mind in a sound body.

The United States Public Health Service at present is printing for general distribution monographs on subjects connected with the health of the public. These are brief, worded so as to be understood by any reader, and are calculated to give the public definite information on a certain subject of importance in connection with health matters. These may be secured by application to the surgeon-general of the United States Public Health Service, Washington, D. C. The health boards of many states furnish printed matter of this nature for general distribution, and which may be obtained by institutions in the individual state. Thus it appears that printed matter is available from various sources. Sporadic attempts to educate the public have always been made. The story is told of Erasmus Darwin, grandfather of the great naturalist, that, having dined not wisely but too well, he was discovered a short time thereafter mounted upon an overturned tub in the market place of Nottingham, haranguing the public as follows: "Ye men of Nottingham, listen to me. Air becomes unwholesome in a few hours if the windows are shut. Open those of your sleeping rooms whenever you quit them to go to your workshops. Keep the windows of your workshops open whenever the weather is not unsupportably cold. I have no interest in giving you this advice." This was said in the eighteenth century, but it appears not to have as yet reached the major part of our population.

Preventive medicine may not be to our interest, but the welfare of our patients is and ever should be our paramount interest. I confidently believe, therefore, that the hospitals of this country will take an increasingly important part in the grand attack that is being made on the agencies, visible and invisible, which wage so relentless and unceasing a war upon the human race.

HOSPITAL WASTE AND ITS DISPOSAL IN SMALL INSTITUTIONS.

Description of Hackley Hospital—Central Incinerating Plant and Its Location—Personnel in Waste Technic—How the Work Is Done.

By MISS ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICH.

First of a Series of Papers on the Physical Management of a Small Hospital.

PAPER I.

THERE is probably no branch of work which presents more acute or more varied problems than those of the hospital world of today, representing in its breadth every variety of institution from the large, well-endowed hospital to the small, crudely organized, struggling country institution, whose very existence from day to day seems largely problematical.

The object of all hospital work, whether the institution be large or small, should be the relief and cure of the sick and suffering, the prevention of disease, and the promotion of medical science. Probably this is one of the very few statements which can be made concerning hospital work that offers little ground for argument.

Generally speaking, it is to the large hospitals of this country we must turn for traditions, standards, and general rulings on which to base the conduct of such institutions. Unfortunately, the requirements of most small hospitals are necessarily of such a different character that rules and regulations which would be of the utmost value in a large institution frequently cannot be applied at all in a small, isolated, country hospital. As a result, when the superintendent of a small institution undertakes to study conditions in other small hospitals with the idea of improving and standardizing the work of her own, she is apt to find that in most cases each institution appears to be a law unto itself, and the result of such investigation is more confusing than enlightening.

In attempting to give, in a series of short papers, some idea of the manner in which the routine or daily work is conducted in one of the smaller hospitals of the country, it is realized that in nearly every institution such work is regarded from a different standpoint, and that, in order to consider intelligently any plan for systematic work, we must take into consideration the character of the hospital itself, its location and surroundings, its construction, its endowment, or, unfortunately in most cases, its lack of endowment, its management, and the spirit in which it is regarded by the community or municipality which it serves. Quite frequently the success of the small hospital is dependent less on shrewd business management than on the creation of a

spirit of loyalty, interest, and good will among those people of the surrounding community on whom it must necessarily depend for its maintenance and support.

On one fact, however, concerning the administration of even a very small hospital all must be agreed, and that is that without a liberal endowment or proper municipal support the hospital is doomed to be a financial failure unless conducted on strict business lines, charging a fair and just financial equivalent to each individual for service rendered. No hospital board should feel justified in rolling up an annual deficit, trusting to the haphazard generosity of the general public through some local entertainment or tag day, which may or may not prove to be sufficiently successful, to meet the needs of the occasion. There certainly appears to be a tendency toward pauperizing a community when transactions which should be of plain business character are turned into public charities, and hospitals expected to make a mere nominal charge to corporations and municipalities for the care of their employees or dependents, thus relieving them of their just burden and throwing it on the shoulders of an already overtaxed institution.

One reads and hears so much of the struggle for existence on the part of the many small unendowed institutions, that a hospital which has the unusual advantage of having an adequate endowment for its use seems to shine out like a beacon of light on a dark way. Such an institution is the Hackley Hospital of Muskegon, Mich., one of the finest of the many monuments erected by the city's great and generous benefactor, Charles E. Hackley, who, after making a fortune in Muskegon, devoted the last sixteen years of his life to the improvement and development of his home city. During this time he spent over $4,000,000, as each of his benefactions was furnished with a liberal endowment. Hackley Hospital was the last institution he lived to build. By the terms of the gift it is placed under the guardianship of the First Congregational Church of Muskegon, which chooses its board of trustees.

The hospital cost over $250,000 to build, and has an endowment of $605,000. For an institution of its size, with a capacity of 75 beds, it is believed to be as complete, scientific, and modern in its plans and equipments as any hospital yet built. It is situated in the most beautiful part of the city, the site occupying four city blocks. The grounds, which have a growth of beautiful native oaks, have been improved and provided with paved walks and drives, shrubbery and flowering plants, making the environment of the hospital ideal in its beauty.

Fig. 1. Hackley Hospital—Front view.

The hospital is built on the pavilion plan, with a central administration building facing the north, while connected with this by spacious corridors are the east and west pavilions devoted to the wards and rooms for patients. To the rear of the administration building is the service building, with kitchen, laundry, and power, light-

ing, and heating plant. These four buildings are really one single building, constructed of the best material and practically fireproof. The extreme length from east to west across the front is 204 feet, while from the front of the building to the south end of the service building is 250 feet. The exterior walls are of red pressed brick, with foundations and stone trimmings of Bedford limestone. The roof is of red tile and the windows of plate glass.

The first floor of the administration building has a large well-lighted lobby in the center, on the walls of which are memorial tablets. Opening off from this lobby are the trustees' room, superintendent's office, reception room, pathological laboratories, doctors' room, and drug room. To the rear is the emergency operating or ambulance reception room. The second floor of the administration building contains the living rooms for the administrative officers.

Fig. 2. Hackley Hospital—Women's surgical ward.

On the third floor is the main operating room, the septic operating room, surgeons' room, etherizing room, recovery room, nurses' room, and rooms for complete x-ray apparatus. The arrangement of these rooms is very convenient. The main operating room has an overhead northern light, believed to be as nearly perfect as can be secured.

The first floor of the west pavilion is arranged in rooms for private patients. The second floor contains the obstetrical department.

The east pavilion contains the men's medical and surgical wards on the first floor and a similar arrangement for women on the second floor. Between these wards on each floor are the diet kitchen, dining room for convalescing patients, and isolation room for a patient critically ill or unmanageable, bath and toilet rooms, and the nurses' charting room.

The service building is reached from the administration building through the basement corridor. Here are the dining rooms for the help, refrigerator rooms, diet kitchen, and bakery. The main kitchen is admirably lighted and ventilated, and has the best equipment of a modern institution kitchen.

There is an isolation department for contagious diseases, completely separated from the rest of the hospital, and a very complete hydrotherapeutic department, which is in the basement of the building.

The power plant is equipped with two 100-horsepower boilers and two direct connected units for furnishing power and operating the electric lights. The heating and ventilating system is a combination of direct radiation for furnishing the principal part of the heat and fans for ventilation. A large ventilating fan in the basement drives the warm air into every room in the building, while four attic fans draw the impure air away. The ventilating capacity is sufficient to give each patient fresh air at the rate of 30 cubic feet per minute. The air supply can be regulated according to the number of patients.

The hospital is furnished with everything to make the patients comfortable and for the best medical and surgical work. The charity work is constant, and gladly, but discriminatingly given. Including those who are given free bed service and those to whom part service is given, and the hospital extension work through the visiting nurse, it is safe to say that the charity work each year amounts to at least $5,000.

The difference between the income from hospital earnings and the outgo is met from the interest on the endowment of $605,000. It has been necessary at times to make additions and improvements to the property. It is the aim of the board of trustees to accumulate a surplus or reserve fund with which to meet extraordinary expenses of the future. Already the hospital is proving too small to meet the needs of the work, and it is hoped that in the near future we may be in a position to build a separate pavilion for obstetrical work, and a new nurses' home to replace the two private residences now used for that purpose.

The hospital is in charge of a board of trustees composed of nine laymen, who have absolute con-

trol of all hospital affairs. The medical staff is divided into eight departments. The chairman of each of these divisions, together with the chief of staff, form what is known as the staff committee, which meets generally twice a year with the board of trustees for special consideration of hospital matters.

The acting executive of the board is the superintendent of the hospital, who is also superintendent of the training school, as is commonly the case in smaller hospitals. There are also engaged as official assistants an assistant superintendent, a surgical supervisor, night superintendent, bookkeeper, and dietitian.

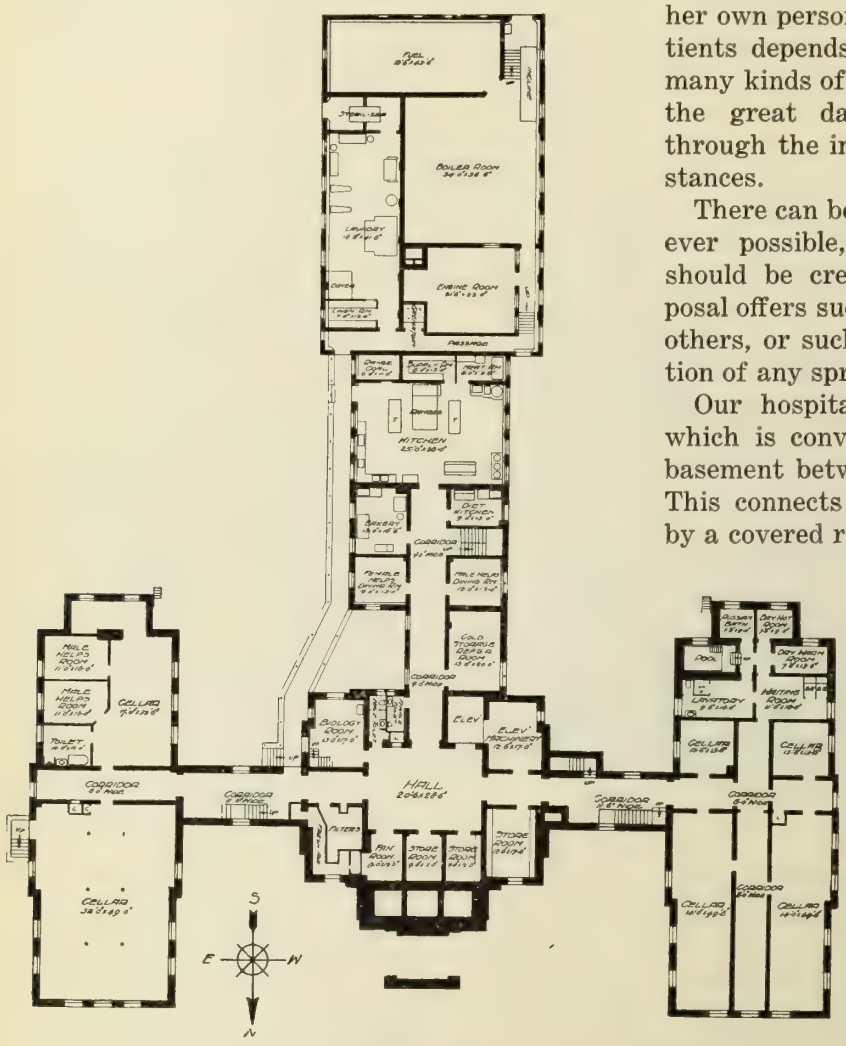

Fig. 3. Hackley Hospital—Plan of basement and service building.

WARD WASTE.

One of the really important points for consideration in every small hospital is the proper disposal of ward wastes, and another one of equal importance is the prevention of ward waste. Every small hospital has its own trials along this line, but one of the greatest elements in the solution of this problem from both sides of the question is in the training and developing of a personal sense of responsibility on the part of the nurses in training.

Every pupil nurse should be impressed, from the day that she enters the hospital, with the fact that a very large measure of her success in any line of nursing will depend on her own personal housekeeping ability and knowledge. She should also receive careful instruction in the difference between ordinary household routine and that of the hospital. It should be explained to her that her own personal safety as well as that of her patients depends largely on the care taken of the many kinds of ward waste. She should be taught the great danger of bacteriological infection through the improper disposal of any waste substances.

There can be absolutely no question that, whenever possible, all waste or refuse substances should be cremated. No other method of disposal offers such absolute safety and protection of others, or such radical measures for the prevention of any spread of disease germs.

Our hospital is provided with a crematory, which is conveniently placed in a recess of the basement between the engine room and laundry. This connects with the main basement corridor by a covered runway, so that garbage or dressing pails with their contents can be taken there on a small truck provided for that purpose without coming in contact with other parts of the building. This outdoor passage is also used in taking soiled clothing from the clothes chutes to the laundry, or in carrying articles to the sterilizing room in the basement for disinfection.

Each morning a fire is started in this incinerator and kept up during the day. It is the work of one orderly to collect all dressings or garbage cans twice daily from the wards and take them to the crematory, where the contents are inspected and burned, after which the cans are scrubbed and scalded in a special hopper provided for that purpose and returned to the wards. This work is in charge of one person, whose special duty it is to see that no articles of value are accidentally destroyed. Each can is plainly marked with the number of the ward, and each ward has one dressing can, which is kept in the bath room, and one smaller garbage can, which remains in the diet kitchen. Any article of value inadvertently

thrown into these cans is taken out, placed in a paper bag and marked with the number of the ward from which it came, and turned over to the supervising nurse, who places the blame for such carelessness where it belongs. In the average small hospital there is, of course, less opportunity for occurrences of this kind than in larger institutions, where the waste accumulates in much larger amounts and where the number of workers is greater, and as a consequence harder to supervise closely.

All refuse from the wards, whether in dressing or garbage cans, is burned. All the food from the serving rooms or diet kitchen is placed in a covered receptacle provided for that purpose, and returned to the kitchen after each meal. By waste food is meant that returned uneaten from patients' trays, or from the various serving rooms, which for any reason it is undesirable to use again. In the kitchen the food from these containers is emptied into what we call the clean garbage cans. We are always able to make satisfactory arrangements with some of the farmers in the vicinity who are glad to pay a small amount weekly for this clean garbage for their pigs and poultry. This is called for and removed daily by the farmer between 4 and 5 o'clock in the afternoon, by which time most of the refuse for the day is collected. All undesirable refuse from the kitchen is placed in what we call the refuse can and burned twice daily.

Broken glasses, dishes, etc., which need to be replaced are put in a box kept for that purpose and sent to the store room for exchange every Thursday morning. This exchange is made by the assistant superintendent, who demands a strict accounting from each head pupil nurse regarding such breakage. The broken articles are then removed in a basket to an out-door bin kept for that purpose, and when sufficient have been collected are conveyed to the city dumping grounds. Any empty cans, broken bottles, or articles which cannot be burned are collected each morning and sent to this bin.

The ceilings and walls of the service rooms and wards throughout the building are brushed down with soft wall brushes every week. These brushes are then soaked in a disinfectant solution, after which they are washed in hot suds and dried. The dusting throughout the hospital is done with soft cloths wrung out of a weak disinfectant solution. Window sills, moldings, etc., are also treated in this manner. These dusters are washed daily in hot suds, and sent to the laundry and boiled once weekly. The ward floors are scrubbed and waxed every other week. Twice daily the floors are brushed with a soft hair broom and then gone over with a plain broom furnished with a soft, thick cover, dampened with a weak disinfectant solution. These covers are cared for in the same manner as the dusters.

Our ward ice boxes are emptied and scrubbed thoroughly every morning, and at this time a solution of hot sal soda is run through the drain pipes to clear them from any grease or waste substances. All drains from sinks, hoppers, etc., are also flushed at least once daily with a hot soda solution.

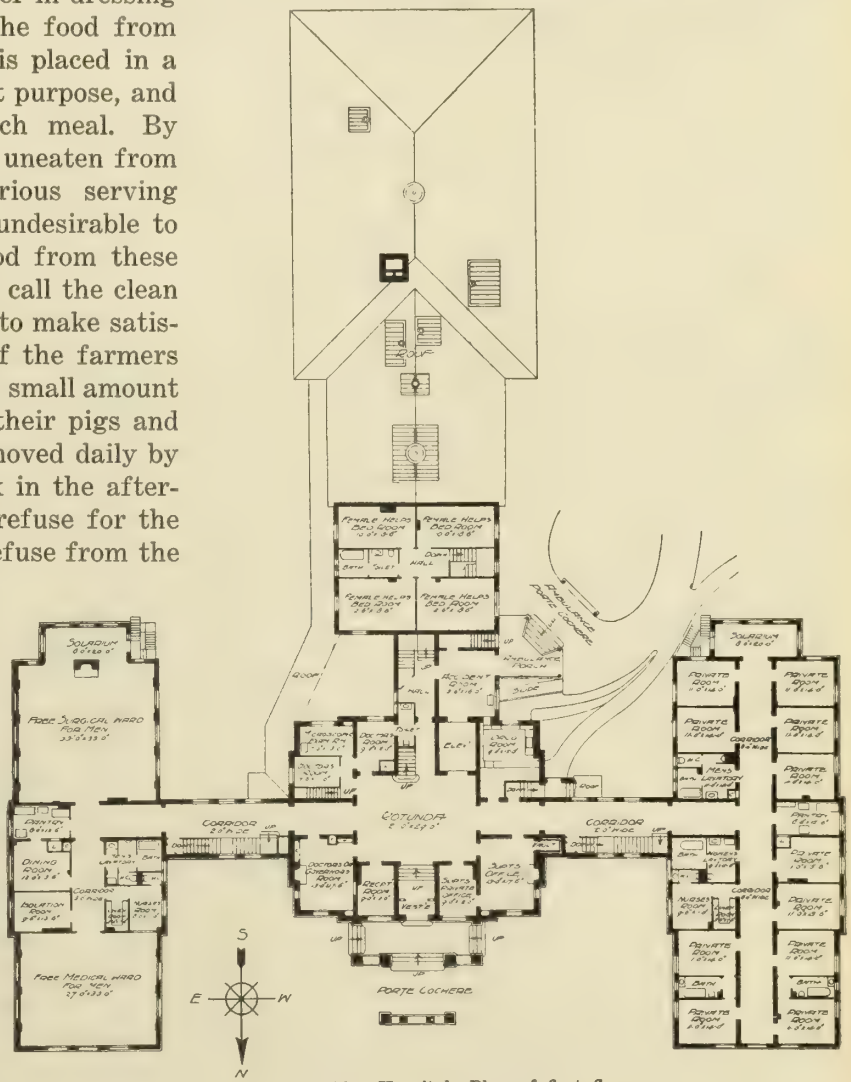

Fig. 4. Hackley Hospital—Plan of first floor.

As the hospital is provided with clothes chutes, no soiled linen is ever allowed to accumulate in the wards or bath rooms, except that which is in the process of disinfection. Any infected or badly soiled linen is cared for in the wards and then taken immediately to the laundry in large foot tubs by the orderly.

Mattresses, pillows, etc., requiring special disinfection are pinned in large square ticking covers and sent to the sterilizing chamber in the basement, where they are sterilized by steam.

A locker room in the basement of the hospital does away with the necessity of keeping in the ward any clothing belonging to patients. The institution furnishes Turkish bath robes and slippers for patients requiring these articles, so that we have very little annoyance or trouble on the score of patients' clothing.

The subject of the disposal of surgical material from ward dressings, etc., will be considered in the next paper.

HOSPITAL ATTITUDE CONCERNING PUBLICITY THROUGH THE NEWSPAPERS.

Newspapers, as People's Agents, Deeply Interested in Hospitals and Their Work, and Have Right to Legitimate News—How Superintendents Should Meet Reporters.

By MR. NORMAN MAUL, New York.

WHAT should be the attitude of the hospital toward the press? Should it hide behind a veil of mystery, or should it be willing to give its news to the papers? Should it welcome reporters, or should it treat them as troublesome inquisitors?

These are pertinent questions when it is remembered that in the eyes of newspaper editors every hospital is a news source, and is therefore subject to frequent calls from newspaper writers. The fact also that the hospital name appears in the police report of every accident or other emergency call to which its ambulance has been sent should not be forgotten, and that many of these police reports are, speaking from a news viewpoint, incomplete, makes it all the more incumbent on the hospital to give serious thought as to its publicity policy, for the reporter, in "digging" for his additional facts, must call on the hospital superintendent or the abmulance surgeon.

Every street accident, every riot, every murder, every shooting affray, and even the cases of ordinary sickness, are reported by the police and posted on the bulletin board, together with the name of the hospital, the ambulance surgeon, the diagnosis, and the final disposition. With these reports as leads, the reporters seek the additional details of the various "stories," and the trail frequently leads to the hospital. It is a wise institution that elects a liberal publicity policy.

Lest it be thought, however, that such a policy will involve the hospital and its medical staff in ethical violations, it should be remembered that there are scores of hospital incidents and bits of information that may be given to the papers without betraying the confidence of patients or suggesting advertising on the part of physicians. These are the two great fears that apparently underlie the seeming unwillingness of certain hospitals to let the public know what they are doing.

Granted a hospital is to pursue a liberal policy toward the papers, what should be the first step? The answer is simple enough: let the fact be evidenced through the attitude of the hospital officials who come in personal contact with the representatives of the papers—the superintendent in his office and the intern on the ambulance.

In addition to the police incidents, there are many little happenings in the day's routine of a hospital that make good news. The stories of certain operations are always good, and they can be made public in such a way that the privacy of the patient is not trespassed, it being seldom necessary to use the name of the operating surgeon. The technical aspect of the operation alone will cover many stories, especially if it has to do with some great advance in surgery, and can be told in such a way as to come within the understanding of the lay mind. Better than such stories, however, are those which possess the human interest element. The sacrifice of school children who give their skin that a burned playmate may be saved is of strong interest, and it never grows old. This may also be said of the friend or relative who gives a quantity of blood that a weakened patient may gain strength. Then there are the witty sayings of the tots in the children's ward, which, while not news, are appreciated for the childish humor they portray, as in the case of the three-year-old boy who, on seeing the stethoscope used for the first time, asked the doctor to telephone to his stomach to find out if he was hungry.

There is also the social life of the hospital—the dances and class exercises of the nurses, the interns' dinner to the doctor who is finishing his service, sometimes a romance, and always the Thanksgiving and Christmas exercises that are held for the ward patients. All these little events make good news items, especially in the smaller cities. They could easily be picked up during the day and made ready for the reporter's call. Such

an interest, while it may take a bit of valuable time, will go a long way toward establishing a bond of friendship. Such a friendship is well worth having, for there are other hospital stories that might be far better if left untold.

In a certain hospital in a large city a fever patient managed to get out of bed, pass through a ward door, and down two flights of stairs before he was missed. He was easily traced to the court yard, where he was found roaming about in his pajamas. There was no stir, and, except the nurses and orderlies and the wakeful patients, no one knew about the incident until it was reported to the superintendent the next morning. Through some roundabout way, however, the incident reached a newspaper reporter, who, seeing possibilities for a good story, went to the hospital for further information. He was told that no such thing had happened—it was none of his business anyway, and, figuratively speaking, was "kicked out."

That afternoon his paper told of a terrific struggle between a delirious patient and a nurse, of the escape from the institution after a leap through a window pane, and of the chase through the streets before the man was caught. The story was taken up by other papers, the hospital besieged by reporters, and the matter came to a climax three days later when the man died and the coroner held an inquest.

A different attitude on the part of the superintendent would have prevented the first story, with its gross exaggerations. The incident would have been forgotten the next day, and it is doubtful if even the coroner's hearing would have received more than passing mention. As it was, the coroner's jury censured the institution for the laxity of its methods, and the fact was duly recorded in glaring type.

Such stories get out through what is known as a "tip." A tip may come from almost any source, taking the most roundabout way of finally reaching the newspaper office. A policeman might be on duty at a hospital, and it would be but natural for him to tell his reporter friends the things he saw. Or a patient might have friends in newspaper work, or even the hospital employees might not be unwilling to speak of some of the things they see. It is impossible to enumerate all the different ways in which a "tip" might get out, and there is one thing certain—no reporter will ever divulge the source of his information; to do so would be to violate the most sacred ethic of his profession.

Once a tip is out, even though it reflects some discredit on the hospital, the superintendent must make the most of a bad situation—smile, if he can, through the reporter's cross-examination and do what he can to help. In other words, if he is a "good scout," the story will not appear any worse than the facts make it. If he sends out word that he has nothing to say and shuts the door in the reporter's face, a highly imaginative yarn will be printed and no amount of second-day explanation and denial will ever counteract the first day's story.

Take the case of the hospital where the interns petitioned the management for better meals. The tip got out through one of the maids who knew the wife of a printer, who in turn told his city editor, who sent a reporter to cover the story. The reporter went direct to the superintendent, who admitted that such a petition had been presented, but said there were absolutely no grounds for complaint.

"Come and have dinner with us now," the superintendent said; "you'll see for yourself just what our meals consist of."

The invitation was accepted, and the dinner proved to be good and substantial, even though lacking in fancy adornments. Not a word was printed about the incident, and the reporter and superintendent became fast friends.

On another occasion a reporter from a paper that went to press at 1 a. m. telephoned a hospital at 10 o'clock at night to learn the condition of a patient who had been seriously injured in an accident that had attracted country-wide attention. Granted that 10 o'clock is quite late, as hospital hours go; it was very early in the evening from a newspaper standpoint. The house physician answered the 'phone, and, when he learned what was wanted, snapped back that it was too late an hour to get such information, and advised the questioner to call at 9 o'clock the next morning. At 9 the next morning the paper that wanted the information had been on the street for several hours, and the information was absolutely useless. There is no tomorrow in newspaper work—if the news cannot be had today, it is dead. Perhaps nothing ever came as a result of that intern's brusk dismissal of the question, except that an opportunity to establish cordial feeling between a hospital and a paper was lost.

Three years ago a man unfamiliar with newspaper ways took charge of a city institution, and on the first day at his new desk met the reporter who covered the district for an afternoon paper. Their conversation soon took an intimate turn, for the superintendent had never before been connected with hospital work. He wanted to know if it was a common practice for reporters to call at the institution, and, being assured that it was, wanted to know what kind of stories would be de-

sired and what his general attitude should be. The reply was: "Be frank; tell what you know and don't attempt to beg or bribe the reporter to hold anything out. Even if a nasty story has cropped up and the reporter seems fresh, hold your temper. Remember also that very few papers desire to discredit any public institution. They want the news as they see it, and they'll always give the proper authorities the opportunity to make the first statement."

Perhaps the reader will ask why a hospital ought to think about publicity and ways of meeting the newspapers. Of course the institution can go on its way healing the sick and caring for the injured with little concern about what outsiders think of the work, yet it is nevertheless true that the public is vitally interested in its hospitals and institutions, and vitally interested also in the progress that surgeons are making in their research laboratories.

And, after all, the hospitals exist solely for the public, and are supported either directly or indirectly by the public. Therefore publicity to a certain extent seems fitting.

NEW NURSES' HOME AT THE MASSACHUSETTS GENERAL HOSPITAL.

Four-Story Addition Planned to Give Pupil Nurses a Proper Home Life—Individual Rooms, Plenty of Baths, Recreation Rooms, Outdoor Porches, and Parlors.

By FREDERIC A. WASHBURN, M. D., Administrator.

THE Massachusetts General Hospital has recently erected an additional home for nurses. The Thayer Building, now on the hospital grounds, contains provision for 113 women. For several years it has been impossible to accommodate all the hospital nurses in this building, and it became necessary to erect the newer structure. It is across the street from the hospital grounds, connected by a tunnel, which will later enter the basement of the administration building which the hospital hopes to erect soon.

The plans which accompany this article are so plain that description is almost unnecessary. The building faces north, and occupies the whole of a small city block. It will be seen that the lavatories and toilet rooms are on the north side, and the bedrooms extend around the east, south, and west sides, thus insuring entrance of sunlight into

Fig. 1. Nurses' Home at Massachusetts General Hospital—Front and side view.

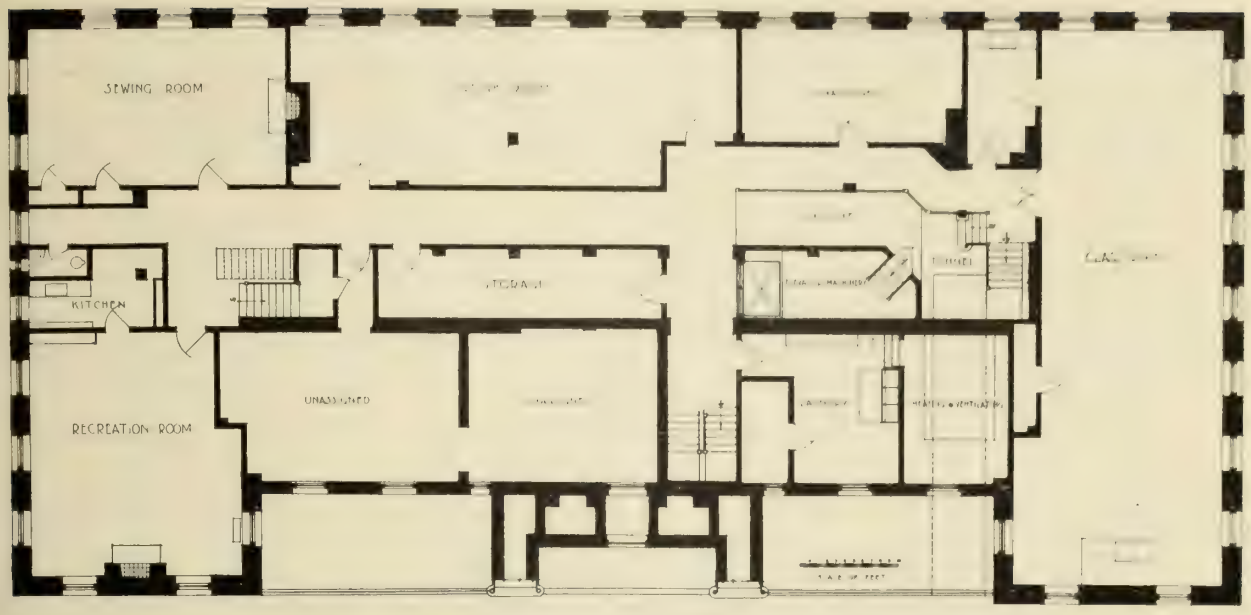

Fig. 2. Nurses' Home at Massachusetts General Hospital—Plan of basement floor.

each bedroom at some time in the course of the day.

There are open-air sitting rooms upon the roof, part of which is covered by an awning, and on the one-story porch in front. There are 101 bed rooms in the building, and two suites of bed room, sitting room, and bath for the superintendent of nurses and the dietitian. There is a guest chamber, with bath adjacent. One of the nurse instructors has a study beside her bed room.

The supervisors have separate bathing facilities from the pupil nurses and a sitting room for their own use. There are two small sitting rooms on each floor. The first floor has a large living room, in which the nurses may entertain their friends and have dances and small entertainments. This room will be handsomely furnished.

In the basement is a recreation room, with a small kitchen opening from it equipped with a gas range. This room has an open fireplace. The other rooms in the basement are a large class room, trunk room, small laundry, and sewing room. There is an electric elevator operated by push buttons. The building is fireproof throughout. The floors are made of reinforced concrete, with German battleship linoleum cemented to the surface. The only exceptions to this finish are that in the large living room is a quartered oak floor, in the vestibule Italian marble, and in the toilet and bath rooms terrazzo.

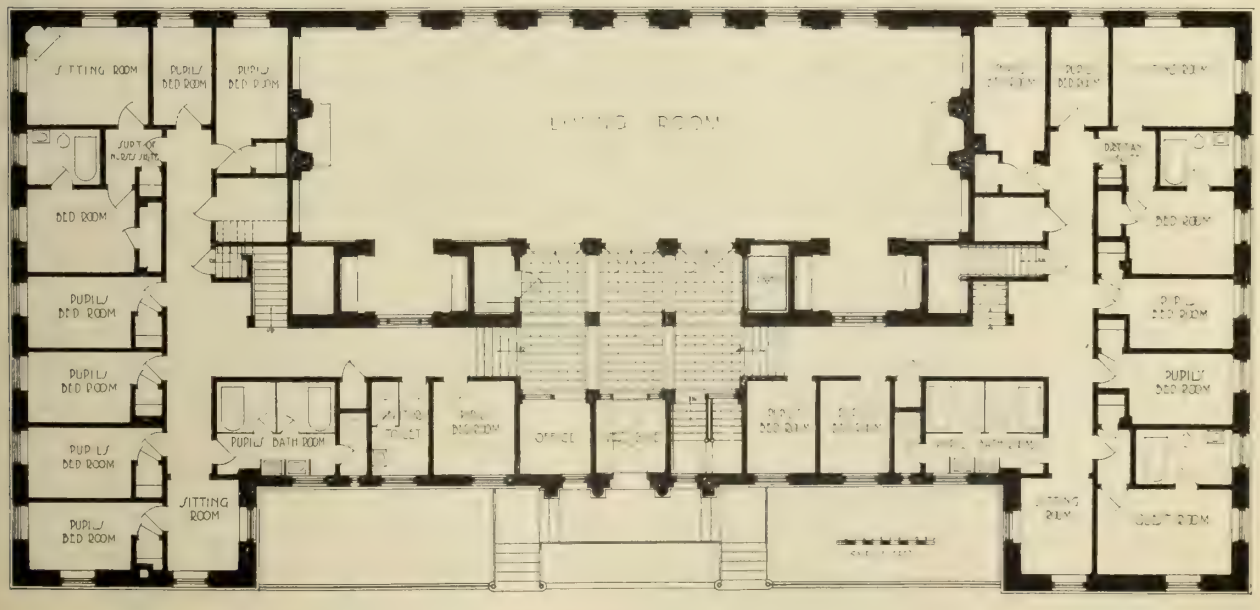

Fig. 3. Nurses' Home at Massachusetts General Hospital—Plan of first floor.

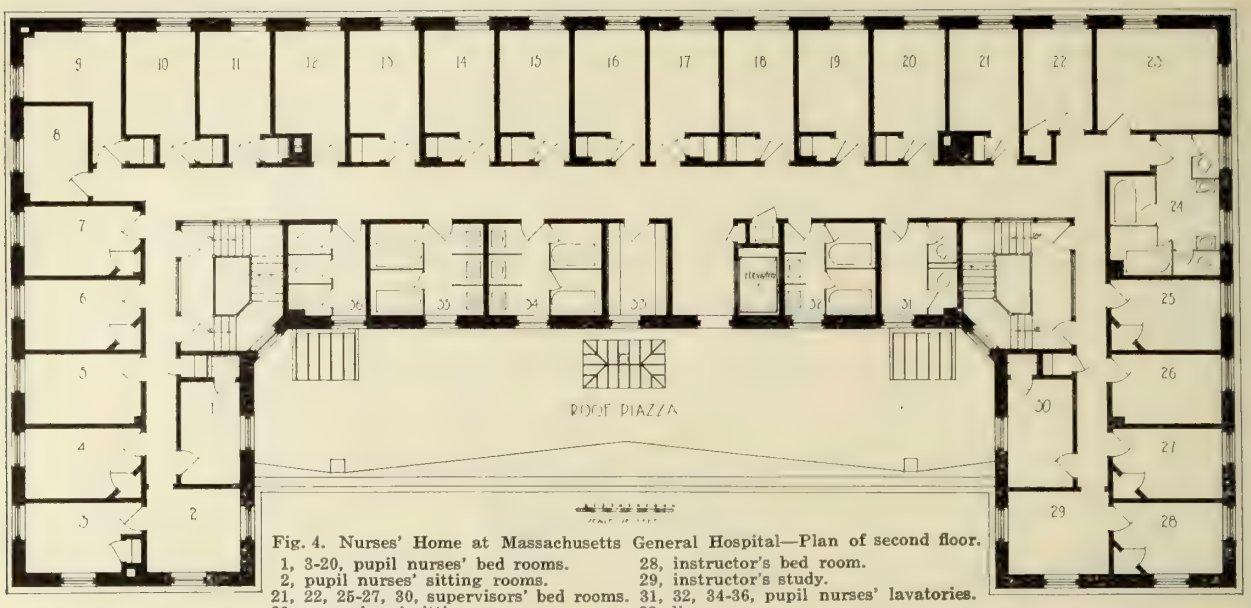

Fig. 4. Nurses' Home at Massachusetts General Hospital—Plan of second floor.

1, 3-20, pupil nurses' bed rooms.
2, pupil nurses' sitting rooms.
21, 22, 25-27, 30, supervisors' bed rooms.
23, supervisors' sitting room.
24, supervisors' bath room.
28, instructor's bed room.
29, instructor's study.
31, 32, 34-36, pupil nurses' lavatories.
33, linen room.

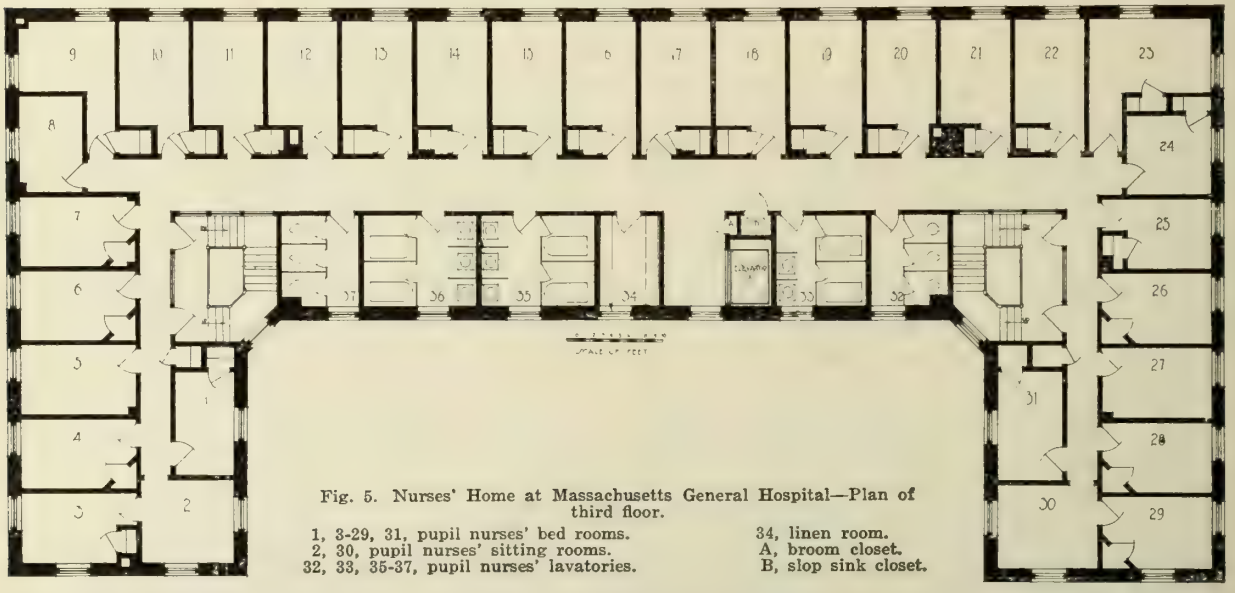

Fig. 5. Nurses' Home at Massachusetts General Hospital—Plan of third floor.

1, 3-29, 31, pupil nurses' bed rooms.
2, 30, pupil nurses' sitting rooms.
32, 33, 35-37, pupil nurses' lavatories.
34, linen room.
A, broom closet.
B, slop sink closet.

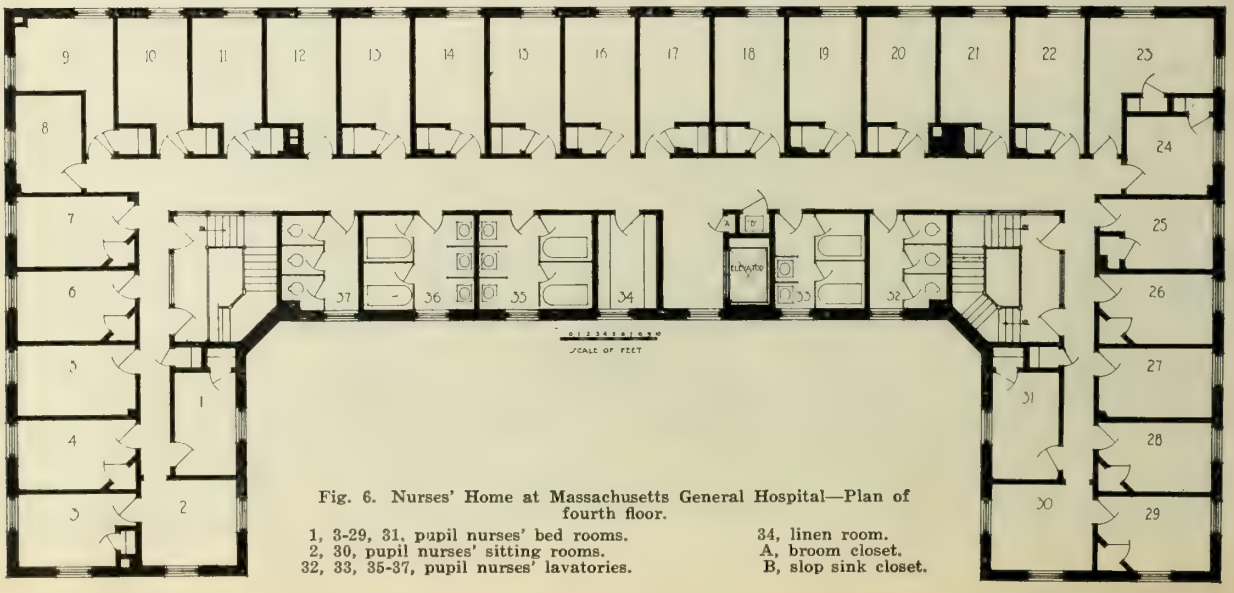

Fig. 6. Nurses' Home at Massachusetts General Hospital—Plan of fourth floor.

1, 3-29, 31, pupil nurses' bed rooms.
2, 30, pupil nurses' sitting rooms.
32, 33, 35-37, pupil nurses' lavatories.
34, linen room.
A, broom closet.
B, slop sink closet.

The building is designed, structurally, to receive an additional story at some future time. To provide for this, the fifth floor slab has been laid. The present roof is of light steel and cinder concrete construction, strutted up from this fifth floor concrete slab. Everything is so arranged that the fifth story can be added without making any change below this floor slab.

The principle is recognized that, to attract to our training school the women we want, we must make the living conditions attractive, and this we have tried to accomplish.

LARGE PART OF HOSPITAL WORK PERFORMED IN THE HOME.[1]

The Relation of Hospital Efficency to the Efficient Organization for Home Nursing—Few Patients Treated in Hospitals.

By RICHARDS M. BRADLEY, Boston.
TRUSTEE OF THE THOMAS THOMPSON TRUST.

A MARKED feature of our time is the broader and clearer view that we are getting of the facts with which we have to deal in our community life.

As one result of this, we are beginning to realize that we must work out a properly adjusted general plan for the handling of the *whole* problem of sickness, whether in or out of our hospitals. In consequence the hospitals are feeling the call that they shall bear a more clearly defined part in this general scheme, partly by doing some of the needed outside work themselves and partly by adjusting their relations to other organizations that have that work in hand.

We are passing the pioneer stage in the problem of handling sickness, when each separate unit had to develop its own individual efficiency, and we are now measuring the efficiency of each unit not alone by its own individual accomplishments, but also by its power of relating its work harmoniously and effectively to the work of other units in the same field. The strong man in the boat must not only be able to put strength into his own oar, but he must also properly adjust that strength to the forces of the other men in the boat. If he does not keep time with the other men, his efficiency is at a discount. We are thus coming to test the efficiency of the hospital in part by its ability to help in the coordination of all forces for the care of the sick.

We are also beginning to realize that these outside forces, if properly handled and organized, can be made a most important factor in forwarding the hospital's own particular work, and for that end alone the proper organization of these forces is worth the best attention of the hospital head.

It has perhaps been exceptionally hard for those who are giving their life's work to the hospital to fully realize this relation of their own work to the general field of related work, or to take hold of the idea that this outside work, scattered as it is, is a proper subject for a studied and comprehensive system of organization.

Everyone who is engaged in effective and absorbing work of his own must sometimes find himself forgetting the great general field of which that work is only a part, and there is double danger of this with the hospital. Hospital work is absorbing, concentrated, and closely organized, while the kindred outside work for the sick has been scattered, unorganized, and consequently as a work hidden from the general view. It is, therefore, difficult to keep in mind its size and importance.

And yet the magnitude of this outside work, when its scattered units are taken into account, is simply bewildering. A recent estimate puts it as ten to one of institutional work. Recent careful canvasses in New York state, covering a population of 17,000, embracing varieties of locations from the east side of Manhattan to hill townships of scattered farmhouses in Dutchess County, show a ratio of 13.4 percent of cases of sickness receiving hospital care as against 86.6 percent cared for at home. The ratio of home cases is undoubtedly far larger in the country at large.

We know that there will be upwards of 1,500,000 cases of mortal illness within a year in the United States and Canada, and most of us expect, when our time comes, to die at home. There will be more than 2,000,000 confinement cases, and most of us were born at home and expect to have our children born there. When in addition to births and deaths we consider the innumerable other cases, part of our daily knowledge, of severe illness needing service outside of the hospitals, we get an added realization of the vastness of this problem of the proper care of sickness in the home.

A few years ago I became impressed not only

[1]Paper read before the American Hospital Association at Boston, August 26, 1913.

with the amount of work that must necessarily be done, in dealing with sickness, outside of the hospital proper and within the homes, but also with the amazing lack of effective organization needed to accomplish that work with any degree of efficiency and economy.

I was not alone in having this impression, for at least one responsible observer has deliberately declared that the net result up to date of organized and scientific care for the sick has been to leave the average family of moderate means, in case of sickness in the home, worse off as to assistance other than medical service than it was a generation ago. The well-to-do get the benefit of the scientifically trained nurse, and a part of the population have visiting nurses; but the great bulk of the people are, as regards home care, worse off than a generation ago. This is apparently largely due to lack of organization.

Within the hospital we seem to have everything that organization can do in the way of nursing and care; outside of the hospital conditions are reversed. There is one notable exception—namely, the visiting nurse work. This work, however, is, unhappily, largely identified with the poorer classes, and, at best, meets the needs of only a limited portion of the home cases—those in which there is somebody available to give continuous care to home and patient.

I am not able to give you here more than a brief outline of an attempt that has been made to fill these gaps, and to work out a comprehensive system for dealing with sickness in the home.

The work has started in Brattleboro, Vermont, a manufacturing town of some 8,000 people and a center for a farming district; the bulk of its population was neither very rich nor very poor, but was pervaded with a strong spirit of personal independence. Their financial and domestic conditions were those of at least five-sixths of the people of the United States and Canada, and their problem was the problem of all other communities. Hospital and visiting nurse services were provided, which did well so far as they went, but served likewise to demonstrate conclusively that a large number of the needs in sickness could not be supplied by such means.

The work of developing a more complete system began, and has continued by taking the case of each family where there is sickness, finding out the exact conditions and needs caused by that sickness in the household, and studying to supply the necessary service in the best way at the least cost, whatever those needs might be.

To do this it was necessary to have a headquarters open night and day, with a capable person always on hand to take the calls, and then to organize forces in accordance with the needs thus developed.

Now, what are those needs?

Dr. Richard Cabot and his coworkers have shown us that the patient in the hospital ward or dispensary is not an isolated unit nor a one-dimension proposition; and that, in order to be treated successfully, each case must be considered in relation to the patient's individual circumstances, and must be considered in several aspects besides the purely medical or surgical aspect.

It is hardly necessary to say that the housewife and mother of young children, confined to her bed by either illness or childbirth, is equally far from being a one-dimension proposition or an isolated unit, and that precisely the same principles apply to the treatment of her case, and to many other cases of sickness in the home.

Whether the need be for a highly trained nurse or for a good plain cook and children's caretaker, or for both, depends on the circumstances of the individual case, and not on any foreordained rules. Moreover, there is no question that the cook or caretaker may, under certain circumstances, be a more important therapeutic agent than the most highly trained nurse. It is difficult to cure any woman whose household is going to pieces under her eyes, and her actual needs and those of her household must be seen, acknowledged, and met.

After work done for a number of years on these lines—work that is still in the experimental stage—the following organization has been evolved:

The headquarters are open day and night to the call of physicians and of families in difficulty through sickness, the usual rules being observed as to relations with physicians in nursing cases.

The working force is as follows:

Under the general superintendent is a visiting nurse, doing the usual visiting work, but interchanging and coordinating her work with a supervising graduate nurse.

This supervising nurse has under her a salaried body of nongraduate workers, who work under supervision and direction, doing such nursing work as they are directed and instructed to do by the supervisor, and also such household service as is entailed by the sickness.

In addition to this force there is a directory and employment agency for graduate nurses at one end of the list, and at the other a miscellaneous list of all the people in the town who can go out and help by the hour, day, or week. The association does all of its work on a business basis, doing work, where necessary, for charitable organization and individuals, but not dispensing charitable aid itself either in remission of charges or in money.

It is intended by thus organizing to have a capable head in touch with all the forces needed in a household when sickness comes, who can use those forces in the most effective way. In using these forces together, we come naturally to deal with the coordination of labor in nursing, a thing which, owing to the newness of trained nursing in the world, has hitherto been strangely lacking in this country. We have had competition where we needed coordination.

The ordinary confinement case can perhaps best show the advantage of the coordination of graduate with nongraduate service.

When the labor begins, we call in the supervising nurse, a graduate thoroughly trained in maternity work, and with the experience of dozens of cases in the course of the year. When she has completed caring for the mother and baby during and after the birth, she leaves an assistant in the house, whose business it is to continue the care of the mother and child under this supervisor's directions, and likewise to help with the meals and with the care of the other children. Where the work is very heavy, a third woman may be needed for an hour or two during the first few days. The case is then carried through the succeeding days by means of regular visits by the supervising nurse, who directs the assistant and gives the case such skilled work and observation as the conditions call for.

As before stated, I can here indicate only the general nature of this work, but can give details later to anyone who may be interested.

Whether a local unit in this exact form is adapted to larger towns is a matter for experiment to show. What I am sure of is that work in the homes can be fully organized along these or similar lines, and that the cooperation, counsel, and assistance of the hospital, which trains women for service in the homes, is needed in order that the hospital may render to the community full measure of efficient service.

So much for the outside organized work in the homes of the people and the relation of the hospital to it.

Now, as to the effect of developing and perfecting this outside organization in making the hospital's own main work, within its own walls, more satisfactory and efficient.

It is, in the first place, of the greatest importance that the hospital should get the right patients at the right time. As to getting the right patients, you are all aware that you need vastly more money for hospital construction and management than you have or are likely to get in order to give accommodation and service to those patients for whom the hospital is the only proper place. If, then, you have at your command another plant that, if properly utilized, can properly serve those who do *not* need to be in the hospital, but are now crowded into the hospitals to the exclusion of cases that do need your especial facilities, it is an economic waste and a failure in the test of efficiency not to endeavor to make effective use of that plant.

The plant that I refer to is, of course, the home, and in the aggregate it is a far greater plant, and has far greater resources of both money and service than the hospital. It must, however, be used efficiently, and its efficient use has thus a direct bearing on your own effectiveness.

There is another reason why you do not always get the right patient. Without proper organization for the care of the home in emergency, the patient often cannot be spared from the home, or is not spared in time to be helped by the hospital. Here also is an instance of the direct bearing of home care organization on your own effectiveness in doing your own appointed work.

Again, there is no need for me to tell you that timeliness in going to the hospital means much in producing the maximum of benefit from the hospital's services. I need not tell you how greatly this timeliness is facilitated by those outposts in the community, the visiting nurse organizations, for you know it.

What we must not forget is that it is only the edge of a far larger field that is now touched by these visiting nurses, and that the great bulk of cases in the home is still practically out of touch with the scientifically trained nurse.

This same touch by the skilled graduate nurse of the right kind on the wider field that must be occupied by the organizations giving general service in sickness will necessarily produce the same result—namely, getting hold of more cases that need to go to the hospital, and getting hold of more cases in time.

Next, when we have the patient in the hospital and have done for that patient what the hospital can best do, the output of the hospital often does not represent a completed job. The hospital's output is a man or woman who has just passed through a mortal crisis and is usually physically unfit for the stress of every-day life.

Unless the hospital can content itself in many such cases with the empty name of service, or unless an enormously expensive system of convalescent homes is provided (which, by the way, would by no means relieve the patient's solicitude for the home during absence), we must again have recourse to making efficient use of the home; if we do not, the hospital must either retain the patient too long, to the exclusion of other patients,

or must turn the patient out with the certainty that there will be a loss of the whole or a large part of the benefit given by the hospital at so great a cost of skill, service, and money.

You cannot get the full efficiency out of your hospitals unless by organizing you get the full efficiency out of your homes.

It is an economic paradox to say that there is no money available to save the spending of far more money. As a business proposition, organized work for the sick in the homes must be made to cover the whole population if the hospitals are to find room for the cases that should be within their walls, and are to properly dispose of those cases that should not be there.

Outside organization has its bearing on another field of hospital efficiency—namely, the educational part of its work, the training of women for the care of the sick.

The use of coordination of labor by organizations of this kind will afford to the hospitals an opportunity to give a different bent to the minds of those whom they train, and to bring about a change in the present abnormal and unsatisfactory position of the graduate nurse.

We appear to have something like 100,000 women doing nursing for a living in Canada and the United States, of whom perhaps 10,000 are graduates of our hospital training schools. What would we think of a West Point or an Annapolis whose graduates had no working relations with the private soldiers, seamen, corporals, sergeants, and warrant officers of our army and navy? What would we think of a technological institute whose graduates could not build a bridge or a ship except in association with holders of a diploma? It is hardly an exaggeration to say that by our lack of organization in home work we have put most of our graduate nurses into a parallel position.

By organizing we make officers of our trained and educated workers in almost every other line of activity, and thus make their skill and education count to the uttermost. Why do we not do the same for our hospital graduates? Instead of this, we are making of most of our graduates a body of women with a position so anomalous that both we and they are puzzled as to what to do about it. The public likewise is suffering from this misdirection, and is finding in the graduates of correspondence schools a measure of relief for which they have looked to us in vain. What we shall call for from the training schools in the development of this outside organized work is a woman who can go into any neighborhood, country or city, and become the friend and helper, guide and counselor of every faithful, capable worker who is devoting herself to the care of the sick and suffering. Not every nurse is capable of this, but every nurse, when she is getting her training, needs to know that her profession has such ideals for its leaders.

If a well-organized, comprehensive system of outside nursing can be established, using coordination of labor and making all-around service to the home the starting point, may there not be a chance of a better adjustment for the graduate nurse, and a wider field for her ability and proper service? I believe this wider field to be possible, because the proper and effective use of the graduate nurse must in the end be determined by the sickness—not by the pocketbook. Organized home nursing in other countries has produced organized methods of benefit insurance as soon as there is a service to insure for. Organization will doubtless accomplish this with us likewise, not only by reducing the service cost, but also by means of insurance, enabling large classes to finance themselves and to get continuous trained nursing when needed, instead of going without or depending upon charity. Social insurance, whether by public or by private enterprise, is a word we shall hear more of in future years, and there is no escape from the conclusion to which we are coming, that reliance on charity to meet sickness and other emergencies of life is not the way out for the classes who are the main support of the country. We can no more serve by charity the needs of those who support *us* than we can lift ourselves by our boot-straps.

Again, there is a possibility of simplifying another of your problems. Much thought and trouble are being given to the naming and grading of nurses in accordance with varied courses of training. Important as this may be, how can any diploma given months or years before decide fully the really vital question of how the right woman can be got to the right case? Can this ever be accomplished by the most perfect system of instruction if the products of your educational efforts are turned out with their certificates or diplomas into a weltering chaos to shift for themselves, as they have been for years?

I believe that an able superintendent of a general service office, knowing the individual woman, and understanding the needs of the individual case, can do more than many diplomas to get the right woman on the right case, provided only that the superintendent occupies an independent civic position, where she is bound to serve the public to the best of her ability; and if she has a real touch on the homes from which the best nursing material comes, she can do much to get that material which you need for your training schools.

To summarize, if summarizing is possible with what in itself can be little more than a mere outline:

Better organized service for the sick in the homes of the independent classes is a necessity.

The hospitals can no longer look only to the work within their walls, but must relate their work in a satisfactory manner with kindred work in the community at large. From them must come help, counsel, and assistance for organizing that outside work.

That work, if organized, will increase by a substantial percentage the efficiency of the hospitals themselves by helping them get the cases that they should have and to get them in time, and by relieving the hospitals of cases that should be taken home under proper conditions to make room for others in the hospital.

In addition to this, the proper organization of outside work and a better role for the graduate nurse in that outside work should produce more good material in the training schools, better results from hospital training, and a more satisfactory status in the community for the graduate nurse.

DETROIT COOPERATIVE HOSPITAL.

Group of Manufacturers Prepare to Give Scientific Care to Employees—New Educational Ideas Invoked.

With the passage, by the state of Michigan, of an employers' liability and workmen's compensation law, which became effective September 1, 1912, there immediately arose the necessity for more adequate hospital facilities for the care of injured workmen—not that industrial accidents would increase through the passage of this act, but because the responsibility of medical and surgical care for the injured was placed directly on the shoulders of the employer for the first three weeks following the accident. Through the passage of this law insurance rates immediately became much higher than heretofore, and a large number of employers decided it to be to their best interests to carry their own insurance. Realizing the shortsightedness of providing medical aid for an injured workman for but three weeks, and then turning him loose to shift for himself, thereby inviting in many cases additional treatment, tending toward the lengthening of the compensation period and entailing additional cost, a number of Detroit manufacturers got together and the Manufacturers' Mutual Hospital Association was organized.

A building at 484 Jefferson avenue was secured, being fairly centrally located for the manufacturers along the river front, who were the originators of the project, and has been completely equipped as a hospital. The building contains twenty-seven rooms, six baths, is steam heated, electrically lighted, has large grounds, and has front and rear entrances. The wards are large, light, and well ventilated, and the private rooms are exceptionally fine, due to the fact that the building was at one time the home of one of Detroit's most representative men.

The staff consists of men of recognized ability, graduates of Yale, Cornell, and Johns Hopkins universities, to which has been added considerable hospital experience, which immediately insures service of the highest quality. The hospital association is organized on a mutual plan, the members being assessed according to the number of their employees. Assessments are based on actual expenses, and rebates will be made should more funds be collected than absolutely necessary.

The method of handling the injured cases is as follows: An accident occurs in the establishment of a member; the injured party is immediately taken to the hospital, where proper aid is rendered. If the injury be of a serious nature, he is immediately assigned to a ward or room, and is then taken care of until he has entirely recovered and is able to return to work. Should the injury be of a minor nature, not necessitating a stay at the hospital, he is sent to his home, provided that conditions at his home regarding sanitation, etc., are favorable to his condition; if not, he is kept at the hospital. Those cases sent to their homes are instructed to return daily to the hospital for treatment, but, if they are unable to do this, a physician will call as often as possible, and treat them at their homes until they are either able to report at the hospital for further treatment or to return to work.

In addition to the staff of physicians, both in and outside, an inspector is employed, whose duty it is to keep track of every case that is being treated at home or that comes to the hospital, follow them up in changes of address, bring them in to the hospital if they do not report as instructed, make reports through the hospital to the employer, and in every way safeguard the employer's interests, so that the men receive the very best medical and surgical care and are returned to work within the shortest possible time.

A complete record of cases is kept at the hospital, such as history sheets, treatment and call records, full data regarding the nature of the accident, and in fact everything pertaining to each case. Should a difference arise between the employee and employer, making arbitration necessary, this detail information is immediately available.

This hospital plan is only a part of the general campaign of education which we are endeavoring to teach the workmen—that their interests are identical with those of the employer; that the employer is making every effort to work for their betterment in various ways, such as proper safeguarding of all machinery and dangerous places, giving them light and well ventilated, sanitary places to work; paying the highest possible wages; taking care of them when injured, realizing fully that such a course tends toward increased loyalty on the part of the workman, bringing about a closer cooperation and gradually decreasing the width of the chasm which has long existed between capital and labor.

A. A. Templeton.
President Manufacturers' Mutual Hospital Association.

Corner Stone For Oakland's New Hospital.

The corner stone of the new $600,000 hospital for the University of California, at Oakland, is to be laid in February with great ceremony. The staff of the new hospital will consist of sixty physicians on the faculty of the medical school.

The hospital will face Parnassus avenue, and it will extend from Second to Fourth avenues. The eastern wing will be devoted to offices, libraries, laboratories, lecture rooms and the like, and the western portion will be given over to wards and rooms. The ground floor of the western portion will be set aside for clinics.

PROPOSED CHANGE IN THE FORM OF HOSPITAL VITAL DATA.

Statistical Experience Data of the General Memorial Hospital, New York City, from 1902 to 1911, Inclusive.

By FREDERICK L. HOFFMAN, LL. D., Statistician, the Prudential Insurance Company of America.

This hospital, during the period 1902-1911, treated 1,337 patients for malignant disease. Of this number, 531 were males and 806 were females. Of the total number treated, 460, or 34.4 percent, were cured; the number of improved was 391, or 29.2 percent; the number of not improved cases was 266, or 19.9 percent; and 115, or 8.6 percent, were either not treated or remained in the hospital at the end of the period. There were 105 deaths, equivalent to a fatality rate of 7.9 percent. For the different organs and parts the fatality rates were as follows:

Cancer of the face, 56 cases, with 2 deaths, or 3.6 percent; cancer of the eyes, 10 cases, with 1 death, or 10.0 percent; cancer of the lips, 30 cases, with no death; cancer of the mouth, 38 cases, with 5 deaths, or 13.2 percent; cancer of the jaw, 65 cases, with 2 deaths, or 3.1 percent; cancer of the head and neck, 196 cases, with 9 deaths, or 4.6 percent; cancer of the throat, 16 cases, with 1 death, or 6.3 per cent; cancer of the thorax, chiefly of the breast, 321 cases, with 8 deaths, or 2.5 percent; cancer of the abdomen, 144 cases, with 39 deaths, or 27.1 percent; cancer of the urinary and male genital organs, 23 cases, with no death; cancer of the upper extremities, 50 cases, with 1 death, or 2.0 percent; cancer of the lower extremities, 111 cases, with 5 deaths, or 4.5 percent; cancer of the female genital organs, 262 cases, with 26 deaths, or 9.9 percent; cancer of miscellaneous organs and parts, 15 cases, with 6 deaths, or 40.0 percent.

It is unfortunate for statistical and medical purposes that the results are not given separately for each sex. In view of the well-known fact that the mortality rate varies considerably for the two sexes in general as well as in hospital experience, it is obviously to small purpose to combine the two sexes and give the results as regards the cured, improved, and the deaths in a consolidated form.

The results of the hospital are, on the whole, decidedly encouraging. This is best illustrated in the comparatively low fatality rate of cancers of the female generative organs, numbering 262 cases, the proportion of the cured being 35.9 percent, the improved 34.0 percent, and the deaths 9.9 percent. There were 286 cases of cancer of the breast, including only three males, with a total mortality of 5, or 1.8 percent. The details of the gynecological cases are of special interest and are given in full in the appended tables. The value of the statistical portion of the annual reports of the General Memorial Hospital would be materially increased if the present method of tabulation were changed and in the future made to conform to the statistics of the Johns Hopkins Hospital, which differentiate not only the males and females, but also the white and colored. Of course, additional information would be of supplementary value, particularly the age distribution of the patients and the proportion of cured, improved, and deaths, according to divisional periods of life. All the required changes would not involve a material expenditure, but the value of the annual reports for the public at large would be considerably increased.

DISEASE.	Male	Female	RESULTS. Cured	Improved	Not improved	Not treated	Not stated	Remaining	Died	Total
General Surgical.										
Face—										
Carcinoma, cheek	1	.....	.....	.....	1	.....	.....	.....	.....	1
Carcinoma, cheek, recurrent	.....	1	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, cheek	14	7	12	3	4	1	.....	.....	1	21
Epithelioma, cheek and gums	1	.....	.....	.....	1	.....	.....	.....	.....	1
Epithelioma, cheek and orbit	.....	1	.....	.....	.....	.....	.....	.....	1	1
Epithelioma, face	5	.....	2	1	1	1	.....	.....	.....	5
Epithelioma, face and cheek	5	1	3	.....	1	2	.....	.....	.....	6
Epithelioma, face and scalp, recurrent	1	.....	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, nose	3	.....	.....	2	1	.....	.....	.....	.....	3
Melano-sarcoma, face	1	.....	.....	.....	.....	1	.....	.....	.....	1
Sarcoma, face	5	9	.....	4	8	.....	.....	2	.....	14
Sarcoma, nose	1	.....	.....	1	.....	.....	.....	.....	.....	1
Total	37	19	17	13	17	5	.....	2	2	56
Eyes—										
Endothelioma, orbit	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, eyelid	.....	1	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, inner canthus	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, lower eyelid	.....	1	.....	1	.....	.....	.....	.....	.....	1
Melanotic sarcoma, retina	.....	1	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, orbit	4	1	1	.....	3	.....	.....	.....	1	5
Total	6	4	4	1	4	.....	.....	.....	1	10
Lips—										
Epithelioma, deformity of lip following excision of	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, lip	15	.....	5	3	1	1	5	.....	.....	15
Epithelioma, lip and submaxillary glands	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, lower lip	6	.....	4	2	.....	.....	.....	.....	.....	6
Epithelioma, lower lip and metastasis	1	.....	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, lower lip and submaxillary glands	3	.....	3	.....	.....	.....	.....	.....	.....	3
Epithelioma, upper lip	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, lower lip	2	.....	.....	1	1	.....	.....	.....	.....	2
Total	30	.....	14	8	2	1	5	.....	.....	30
Mouth—										
Carcinoma, tongue	7	.....	2	.....	1	1	.....	.....	3	7
Carcinoma, tongue, submaxillary involvement	1	.....	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, floor of mouth	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, gums	1	.....	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, mouth	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, soft palate	2	.....	.....	2	.....	.....	.....	.....	.....	2
Epithelioma, tongue	24	.....	12	3	3	3	1	.....	2	24
Sarcoma, hard palate	.....	1	.....	.....	1	.....	.....	.....	.....	1
Total	37	1	16	7	5	4	1	.....	5	38

DISEASE.	Male	Female	RESULTS. Cured	Improved	Not improved	Not treated	Not stated	Remaining	Died	Total
General Surgical—Cont'd.										
Jaws—										
Adamantinoma, lower jaw, recurrent	.....	1	.....	1	.....	.....	.....	.....	.....	1
Alveolar sarcoma, jaw	1	.....	.....	1	.....	.....	.....	.....	.....	1
Angio-sarcoma, upper jaw	1	.....	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, lower jaw	4	4	1	3	3	.....	.....	.....	1	8
Carcinoma, upper jaw	.....	1	1	.....	.....	.....	.....	.....	.....	1
Endothelioma, submaxillary glands	.....	1	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, inferior maxilla	3	1	1	1	.....	2	.....	.....	.....	4
Epithelioma, submaxillary glands	6	.....	4	1	1	.....	.....	.....	.....	6
Epithelioma, superior maxilla	4	1	.....	3	1	.....	.....	1	.....	5
Epulis, jaw	.....	2	2	.....	.....	.....	.....	.....	.....	2
Epulis, inferior maxilla	1	3	3	1	.....	.....	.....	.....	.....	4
Fibro-sarcoma, upper jaw	.....	1	1	.....	.....	.....	.....	.....	.....	1
Lympho-sarcoma, upper jaw and palate	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, inferior maxilla	2	3	2	1	2	.....	.....	.....	.....	5
Sarcoma, inferior maxilla and neck	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, jaw	.....	4	.....	1	2	.....	.....	.....	1	4
Sarcoma, submaxillary region	1	2	.....	3	.....	.....	.....	.....	.....	3
Sarcoma, superior maxilla	12	2	.....	7	8	.....	.....	.....	.....	15
Sarcoma, superior and inferior maxillæ	1	.....	.....	1	.....	.....	.....	.....	.....	1
Total	39	26	16	27	17	2	.....	1	2	65
Head and Neck—										
Adeno-sarcoma, thyroid	.....	3	.....	3	.....	.....	.....	.....	.....	3
Angio-sarcoma, neck	2	2	1	.....	2	.....	.....	.....	1	4
Carcinoma, antrum	2	2	1	3	.....	.....	.....	.....	.....	4
Carcinoma, branchio-genetic cleft	1	.....	.....	.....	1	.....	.....	.....	.....	1
Carcinoma, cervical glands	12	6	6	7	2	1	.....	.....	2	18
Carcinoma, head, recurrent	.....	2	.....	2	.....	.....	.....	.....	.....	2
Carcinoma, neck	12	3	.....	5	5	1	.....	2	2	15
Carcinoma, neck, recurrent	.....	2	.....	.....	.....	.....	2	.....	.....	2
Carcinoma, parotid	1	1	.....	1	1	.....	.....	.....	.....	2
Carcinoma, parotid region	1	1	1	1	.....	.....	.....	.....	.....	2
Carcinoma, thyroid	1	.....	.....	.....	1	.....	.....	.....	.....	1
Chondro-epithelioma, antrum	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, antrum	.....	1	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, cervical glands	5	.....	2	2	.....	1	.....	.....	.....	5
Epithelioma, ear	1	.....	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, forehead	1	2	2	1	.....	.....	.....	.....	.....	3
Epithelioma, neck	21	1	5	5	11	.....	.....	.....	1	22
Epithelioma, post-auricular glands	1	.....	.....	.....	1	.....	.....	.....	.....	1
Epithelioma, scalp	1	1	1	.....	1	.....	.....	.....	.....	2
Fibro-sarcoma, neck	1	.....	.....	.....	1	.....	.....	.....	.....	1
Hodgkin's disease	8	4	.....	6	5	.....	.....	.....	1	12
Hodgkin's sarcoma	3	.....	.....	3	.....	.....	.....	.....	.....	3
Lympho-sarcoma, neck	1	1	.....	1	1	.....	.....	.....	.....	2
Melano-sarcoma, neck	1	.....	.....	.....	1	.....	.....	.....	.....	1
Mixed tumor, parotid	1	.....	.....	.....	1	.....	.....	.....	.....	1
Myxo-chondro-epithelioma, parotid	1	.....	1	.....	.....	.....	.....	.....	.....	1
Myxo-epithelial tumor, parotid	.....	1	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, thyroid gland	.....	1	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, scalp	1	.....	.....	.....	.....	.....	.....	1	.....	1
Sarcoma, carotid gland	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, parotid gland	12	3	5	6	3	.....	.....	.....	1	15
Sarcoma, forehead	7	5	4	3	5	.....	.....	.....	.....	12
Sarcoma, forehead and face	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, forehead and scalp	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, neck	38	11	4	18	18	6	.....	2	1	49
Sarcoma, neck, with metastases	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, neck and orbit	1	.....	.....	1	.....	.....	.....	.....	.....	1
Tumor, occipital bone	1	.....	.....	.....	1	.....	.....	.....	.....	1
Total	142	54	35	71	65	9	2	5	9	196
Throat—										
Carcinoma, larynx	1	1	.....	.....	2	.....	.....	.....	.....	2
Carcinoma, throat	1	.....	.....	.....	.....	.....	.....	.....	1	1
Carcinoma, tonsil	1	1	.....	1	1	.....	.....	.....	.....	2
Epithelioma, larynx	2	.....	.....	2	.....	.....	.....	.....	.....	2
Sarcoma, nasopharynx	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, tonsil	6	.....	.....	3	3	.....	.....	.....	.....	6
Sarcoma, tonsil and glands of neck	2	.....	.....	2	.....	.....	.....	.....	.....	2
Total	14	2	.....	9	6	.....	.....	.....	1	16
Thorax—										
Carcinoma, breast	.....	38	25	12	.....	1	.....	.....	.....	38
Carcinoma, breast, inoperable	.....	9	.....	1	1	1	.....	3	3	9
Carcinoma, breast, operable	1	128	114	7	1	1	.....	5	.....	129
Carcinoma, breast, recurrent	.....	47	20	11	9	4	.....	1	2	47
Carcinoma, breast and forearm	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, breast and axilla	.....	7	.....	7	.....	.....	.....	.....	.....	7
Carcinoma, breast, bilateral	.....	2	.....	.....	.....	2	.....	.....	.....	2
Carcinoma, breast, unilateral	2	37	30	7	1	1	.....	.....	.....	39
Celeno-carcinoma, breast	.....	1	1	.....	.....	.....	.....	.....	.....	1
Paget's disease	.....	1	1	.....	.....	.....	.....	.....	.....	1
Sarcoma, breast	.....	12	6	2	2	2	.....	.....	.....	12
Carcinoma, chest wall	1	.....	.....	.....	1	.....	.....	.....	.....	1
Melano-sarcoma, side of chest	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, chest wall	1	.....	1	.....	.....	.....	.....	.....	.....	1
Sarcoma, chest wall	10	3	.....	5	7	.....	.....	.....	1	13
Sarcoma, chest wall and rib	2	.....	1	1	.....	.....	.....	.....	.....	2
Sarcoma, clavicle	2	.....	.....	1	1	.....	.....	.....	.....	2
Sarcoma, mediastinum	2	1	.....	1	.....	.....	.....	.....	2	3
Sarcoma, pectoral region	11	1	8	4	5	.....	.....	1	.....	12
Total	33	288	202	60	28	12	.....	11	8	321
Abdomen—										
Carcinoma, abdominal viscera	.....	4	.....	.....	2	1	.....	.....	1	4
Carcinoma, abdominal viscera, inoperable	3	7	.....	.....	3	5	.....	.....	2	10
Carcinoma, ascending colon and omentum	.....	1	.....	.....	1	.....	.....	.....	.....	1
Carcinoma, ascending colon and cecum	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, intestines	4	2	.....	1	2	1	.....	.....	2	6
Carcinoma, cecum	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, head of cecum, inoperable	.....	1	.....	.....	.....	.....	.....	.....	1	1
Carcinoma, ileum	.....	1	.....	.....	.....	1	.....	.....	.....	1

DISEASE.	Male	Female	RESULTS. Cured	Improved	Not improved	Not treated	Not stated	Remaining	Died	Total
General Surgical—Cont'd.										
Abdomen—Cont'd—										
Carcinoma, descending colon	3	2	1	.....	.....	.....	.....	1	3	5
Carcinoma, sigmoid flexure, colon	.....	1	1	.....	.....	.....	.....	.....	.....	1
Carcinoma, sigmoid flexure and intestinal obstruction	1	1	.....	.....	.....	1	.....	.....	1	2
Carcinoma, colon	1	1	.....	.....	.....	.....	.....	.....	2	2
Carcinoma, omentum	1	1	1	1	.....	.....	.....	.....	.....	2
Carcinoma, rectum, inoperable	1	2	.....	2	1	.....	.....	.....	.....	3
Carcinoma, rectum and sigmoid	3	4	.....	1	.....	.....	.....	.....	6	7
Carcinoma, rectum	2	2	1	1	.....	1	.....	.....	1	4
Carcinoma, rectum, operable	3	4	1	4	1	.....	.....	.....	1	7
Carcinoma, cardiac end of stomach	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, pylorus	1	1	1	.....	.....	.....	.....	.....	1	2
Carcinoma, stomach	6	2	.....	2	2	2	.....	.....	2	8
Carcinoma, stomach, operable	1	9	3	2	1	.....	.....	.....	4	10
Carcinoma, stomach, inoperable	11	5	.....	3	5	5	.....	.....	3	16
Carcinoma, stomach, pyloric obstruction	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, lower end of esophagus	1	.....	.....	.....	1	.....	.....	.....	.....	1
Carcinoma, esophagus	4	.....	.....	.....	4	.....	.....	.....	.....	4
Carcinoma, liver	2	9	.....	1	4	3	.....	.....	3	11
Carcinoma, pancreas	.....	1	.....	.....	.....	.....	.....	.....	1	1
Carcinoma, retroperitoneal glands	1	.....	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, gall bladder	1	2	1	2	.....	.....	.....	.....	.....	3
Angio-sarcoma, abdomen, pelvis	.....	1	.....	1	.....	.....	.....	.....	.....	1
Adeno-sarcoma, hepatic flexure, colon	.....	1	1	.....	.....	.....	.....	.....	.....	1
Fibro-sarcoma, mesentery	1	.....	1	.....	.....	.....	.....	.....	.....	1
Papillomatous cyst, abdomen	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, abdomen	1	3	.....	.....	1	.....	.....	.....	3	4
Sarcoma, abdomen, wall	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, abdomen, inoperable	.....	3	.....	3	.....	.....	.....	.....	.....	3
Sarcoma, abdomen, flank	1	1	.....	.....	1	.....	.....	.....	1	2
Sarcoma, intestines and pelvis	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, ileum	3	2	1	.....	4	.....	.....	.....	.....	5
Sarcoma, mesentery	1	.....	.....	.....	.....	.....	.....	.....	1	1
Sarcoma, viscera	.....	1	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, retroperitoneal glands	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, rectum	2	1	1	.....	1	1	.....	.....	.....	3
Sarcoma, rectum, inoperable	1	.....	.....	.....	1	.....	.....	.....	.....	1
Total	**61**	**83**	**14**	**33**	**36**	**21**	.....	**1**	**39**	**144**
Genito-Urinary—										
Carcinoma, bladder	2	.....	1	.....	1	.....	.....	.....	.....	2
Carcinoma, prostate gland	2	.....	.....	1	1	.....	.....	.....	.....	2
Chondro-adeno-sarcoma, spermatic cord	1	.....	1	.....	.....	.....	.....	.....	.....	1
Carcinoma, testicle	1	.....	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, penis	5	.....	3	2	.....	.....	.....	.....	.....	5
Carcinoma, penis and inguinal glands	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, kidney	1	1	.....	.....	2	.....	.....	.....	.....	2
Sarcoma, testis	6	.....	2	2	1	.....	.....	1	.....	6
Sarcoma, testis, abdominal metastasis	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, undescended testis	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, testis, recurrent	1	.....	.....	1	.....	.....	.....	.....	.....	1
Total	**22**	**1**	**7**	**7**	**8**	.....	.....	**1**	.....	**23**
Upper Extremity—										
Carcinoma, axilla	2	1	1	2	.....	.....	.....	.....	.....	3
Carcinoma, axilla and glands	.....	2	1	.....	.....	.....	.....	1	.....	2
Carcinoma, axilla and glands, recurrent	1	1	2	.....	.....	.....	.....	.....	.....	2
Carcinoma, axillary nodes	.....	1	1	.....	.....	.....	.....	.....	.....	1
Carcinoma, shoulder	2	1	2	1	.....	.....	.....	.....	.....	3
Epithelioma, arm	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, hand	2	.....	2	.....	.....	.....	.....	.....	.....	2
Epithelioma, arm and axillary glands	.....	1	.....	1	.....	.....	.....	.....	.....	1
Melano-sarcoma, arm	1	.....	1	.....	.....	.....	.....	.....	.....	1
Osteo-sarcoma, arm	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, arm	3	2	2	2	1	.....	.....	.....	.....	5
Sarcoma, axilla	4	.....	1	2	1	.....	.....	.....	.....	4
Sarcoma, axillary glands, recurrent	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, finger	1	.....	1	.....	.....	.....	.....	.....	.....	1
Sarcoma, hand	2	.....	1	1	.....	.....	.....	.....	.....	2
Sarcoma, shoulder	6	3	1	4	3	.....	.....	.....	1	9
Sarcoma, scapula	2	.....	.....	.....	2	.....	.....	.....	.....	2
Sarcoma, forearm	.....	2	.....	2	.....	.....	.....	.....	.....	2
Sarcoma, humerus	1	3	1	2	1	.....	.....	.....	.....	4
Sarcoma, radius	.....	1	.....	1	.....	.....	.....	.....	.....	1
Tumor (n.s.), axilla	.....	2	1	1	.....	.....	.....	.....	.....	2
Total	**30**	**20**	**19**	**21**	**8**	.....	.....	**1**	**1**	**50**
Lower Extremity—										
Carcinoma, ankle	1	.....	1	.....	.....	.....	.....	.....	.....	1
Carcinoma, inguinal glands	2	2	.....	3	.....	1	.....	.....	.....	4
Congenital epithelial tumor, leg	2	.....	1	.....	.....	1	.....	.....	.....	2
Epithelioma, femoral region	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, buttocks	1	.....	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, thigh	.....	1	1	.....	.....	.....	.....	.....	.....	1
Epithelioma, thigh, recurrent	1	1	.....	2	.....	.....	.....	.....	.....	2
Giant-celled sarcoma, thigh	1	.....	.....	1	.....	.....	.....	.....	.....	1
Lympho-sarcoma, groin	1	.....	.....	1	.....	.....	.....	.....	.....	1
Melano-sarcoma, ankle	.....	1	.....	.....	1	.....	.....	.....	.....	1
Melano-sarcoma, inguinal region	.....	1	.....	1	.....	.....	.....	.....	.....	1
Osteo-sarcoma, leg	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, ankle	2	1	2	.....	1	.....	.....	.....	.....	3
Sarcoma, inguinal region	4	2	.....	2	4	.....	.....	.....	.....	6
Sarcoma, inguinal, sarcomatous testis	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, groin	9	6	2	6	5	.....	.....	.....	2	15
Sarcoma, inguinal lymph nodes	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, inguinal region and thigh	2	.....	.....	1	1	.....	.....	.....	.....	2
Sarcoma, buttocks	3	2	2	2	1	.....	.....	.....	.....	5
Sarcoma, femur	6	4	2	2	6	.....	.....	.....	.....	10
Sarcoma, foot	.....	3	.....	3	.....	.....	.....	.....	.....	3
Sarcoma, hip	4	1	1	1	3	.....	.....	.....	.....	5
Sarcoma, ilium	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, lumbar region	.....	1	.....	.....	1	.....	.....	.....	.....	1

DISEASE.	Male	Female	RESULTS. Cured	Improved	Not improved	Not treated	Not stated	Remaining	Died	Total
General Surgical—Cont'd.										
Lower Extremity—Cont'd—										
Sarcoma, leg, recurrent	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, pelvis	7	1	.....	3	4	.....	.....	.....	1	8
Sarcoma, pelvis, inoperable	3	.....	.....	.....	1	1	.....	.....	1	3
Sarcoma, popliteal space	1	.....	.....	.....	1	.....	.....	.....	.....	1
Sarcoma, tibia	1	2	3	.....	.....	.....	.....	.....	.....	3
Sarcoma, thigh	16	7	3	8	9	.....	.....	2	1	23
Subperiosteal albuminosa, femur	1	.....	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, toe	.....	1	1	.....	.....	.....	.....	.....	.....	1
Total	72	39	21	41	39	3	.....	2	5	111
Gynecological—Female Generative Organs Only.										
Carcinomatous cyst, broad ligament	.....	4	1	1	.....	.....	.....	1	1	4
Adenoma, cervix	.....	1	.....	.....	.....	.....	.....	.....	1	1
Carcinoma, cervix	.....	75	30	31	8	3	.....	3	.....	75
Carcinoma, cervix, inoperable	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, cervix and uterus	.....	1	.....	1	.....	.....	.....	.....	.....	1
Carcinoma, cervix and vagina	.....	4	.....	4	.....	.....	.....	.....	.....	4
Carcinoma, ovary	.....	12	4	3	1	1	.....	.....	3	12
Carcinoma, uterus	.....	20	10	6	1	.....	.....	.....	3	20
Carcinoma, uterus, inoperable	.....	42	.....	13	14	10	.....	.....	5	42
Carcinoma, uterus, operable	.....	38	23	7	.....	2	.....	.....	6	38
Carcinoma, vagina	.....	3	.....	3	.....	.....	.....	.....	.....	3
Adenoma, uterus	.....	3	2	1	.....	.....	.....	.....	.....	3
Adeno-sarcoma, uterus	.....	2	1	.....	.....	.....	.....	.....	1	2
Chorio-epithelioma, uterus	.....	1	.....	.....	.....	1	.....	.....	.....	1
Chorio-epithelioma, uterus and vagina	.....	1	.....	.....	.....	.....	.....	.....	1	1
Deciduoma	.....	1	.....	1	.....	.....	.....	.....	.....	1
Dermoid cyst, carcinomatous degeneration	.....	1	1	.....	.....	.....	.....	.....	.....	1
Fibro-sarcoma	.....	1	1	.....	.....	.....	.....	.....	.....	1
Malignant papilloma, ovary (involvement)	.....	1	.....	1	.....	.....	.....	.....	.....	1
Papilloma, ovary	.....	14	8	1	2	2	.....	.....	1	14
Papillary adeno-sarcoma, ovary	.....	1	1	.....	.....	.....	.....	.....	.....	1
Polypoid endometritis	.....	1	.....	.....	.....	.....	.....	.....	1	1
Epithelioma, cervix	.....	5	2	3	.....	.....	.....	.....	.....	5
Epithelioma, clitoris	.....	2	.....	2	.....	.....	.....	.....	.....	2
Epithelioma, labia	.....	3	1	2	.....	.....	.....	.....	.....	3
Epithelioma, labium minor, clitoris	.....	1	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, ovary	.....	1	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, uterus	.....	1	.....	1	.....	.....	.....	.....	.....	1
Epithelioma, vulva	.....	2	2	.....	.....	.....	.....	.....	.....	2
Sarcoma, uterus	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, uterus, operable	.....	2	2	.....	.....	.....	.....	.....	.....	2
Sarcoma, uterus, inoperable	.....	1	.....	1	.....	.....	.....	.....	.....	1
Sarcoma, ovary	.....	13	5	2	1	1	.....	1	3	13
Sarcoma, vagina, recurrent	.....	1	.....	.....	1	.....	.....	.....	.....	1
Epithelioma	.....	1	.....	1	.....	.....	.....	.....	.....	1
Total	.....	262	94	89	28	20	.....	5	26	262
Miscellaneous and Unclassified Medical and Surgical.										
Blastomycosis	1	.....	.....	.....	.....	.....	.....	.....	1	1
Carcinomatosis	1	2	.....	.....	2	.....	.....	.....	1	3
General lymphoma	1	.....	.....	.....	.....	.....	.....	.....	1	1
Round-celled sarcoma	1	.....	.....	1	.....	.....	.....	.....	.....	1
Metastatic carcinoma	.....	1	.....	1	.....	.....	.....	.....	.....	1
Epithelioma	.....	1	.....	.....	.....	1	.....	.....	.....	1
Sarcoma, sacro-iliac region	2	1	1	1	.....	.....	.....	.....	1	3
Sarcoma, dorsal spine	.....	1	.....	.....	.....	.....	.....	.....	1	1
Osteo-chondro-sarcoma, ilium	1	.....	.....	.....	.....	.....	.....	.....	1	1
Sarcomatosis	.....	1	.....	.....	1	.....	.....	.....	.....	1
Sarcoma	1	.....	.....	1	.....	.....	.....	.....	.....	1
Total	8	7	1	4	3	1	.....	.....	6	15
Grand total	531	806	460	391	266	78	8	29	105	1337

SUMMARY OF THE FOREGOING DATA.

Group	Total Number	Total Percent	Cured Male	Cured Female	Cured Number	Cured Percent	Improved Number	Improved Percent	Not improved	Not treated	Not stated	Number remaining	Died Number	Died Percent
Face	56	4.2	37	19	17	30.4	13	23.1	17	5	.....	2	2	3.6
Eyes	10	0.7	6	4	4	40.0	1	10.0	4	.....	.....	.....	1	10.0
Lips	30	2.2	30	.....	14	46.7	8	26.7	2	1	5	.....	.....	.....
Mouth	38	2.9	37	1	16	42.1	7	18.4	5	4	1	.....	5	13.2
Jaws	65	4.9	39	26	16	24.6	27	41.5	17	2	.....	1	2	3.1
Head and neck	196	14.7	142	54	35	17.9	71	36.2	65	[illegible]	2	5	9	4.6
Throat	16	1.2	14	2	.....	.....	9	56.3	6	.....	.....	.....	1	6.3
Thorax	321	24.0	33	288	202	62.9	60	18.7	28	12	.....	11	8	2.5
Abdomen	144	10.8	61	83	14	9.7	33	22.9	36	21	.....	1	39	27.1
Genito-urinary	23	1.7	22	1	7	30.4	7	30.4	8	.....	.....	1	.....	.....
Upper extremity	50	3.7	30	20	19	38.0	21	42.0	8	.....	.....	1	1	2.0
Lower extremity	111	8.3	72	39	21	18.9	41	36.9	39	3	.....	2	5	4.5
Female gen. organs	262	19.6	.....	262	94	35.9	89	34.0	28	20	.....	5	26	9.9
Miscellaneous	15	1.1	8	7	1	6.7	4	26.7	3	1	.....	.....	[illegible]	40.0
Total	1337	100.0	531	806	460	34.4	391	29.2	266	78	8	29	105	7.9

COMPLETE EQUIPMENT OF A 100-BED CHILDREN'S HOSPITAL.

In the Furnishing of This Institution, Units Are Taken Rather Than Number of Patients—Nurses, Wet Nurses, Nursery Maids, Interns and Physicians Are Provided For.

By MISS ELIZABETH BURGESS,
SUPERINTENDENT MICHAEL REESE HOSPITAL TRAINING SCHOOL FOR NURSES.

This is the first of a series of papers giving lists of equipment for various kinds of hospitals. Of necessity, there can be no hard-and-fast rule concerning amounts, and prices are omitted as likely to be misleading rather than helpful. But these lists will be found to be very complete down to the minutest details, and it is hoped they will be a helpful guide to those who plan the equipment either of a children's ward or pavilion, or complete hospital. For very special reasons we have changed the originally intended order of the papers. Next month will be presented the equipment of a general hospital.

EQUIPMENT OF SARAH MORRIS HOSPITAL FOR CHILDREN.

BASEMENT.

Children's Play Room.

Crex rugs.
1 double swing.
1 merry-go-round.
2 blackboards.
2 bookcases and books.
Kindergarten table.
Kindergarten chairs.
Graphophone.
Toys.

Wet Nurses' Rooms—Each Room.

2 beds.
2 mattresses.
2 pillows.
1 dresser.
1 table.
1 rocker.
1 straight chair.
2 cribs.
2 crib mattresses.

Rooms are furnished on babies' floor for wet nurses during the day.

Milk Station.

Large ice chest.
Special utensil table.
Pasteurizer.
Sterilizer.
Stove.
Nurses' desk and chair.
Sinks.
Babcock tests.
Churn.
Separator.
Large amount table space.
Large amount shelving.

Milk Station—Small Equipment.

Aluminum basins.
Aluminum double boilers, several sizes.
Strainers.
Milk pitchers and pails.
Teakettle.
Wooden spoons.
Largest size Dover's egg beaters.
Gram scales.
Wire baskets for feeding bottles, holding 4, 6 and 8.
Numbered tags for bottles.
2 white enamel chairs.

Sewing Room.

1 large cutting table.
1 smaller table.
1 rocker.
3 straight chairs.
1 power sewing machine.
1 hand sewing machine.

Laundry.

1 Hurley washer.
1 steam dryer.
1 ironing board.
3 set tubs, one with steam fitting for boiling.
1 large table.
1 wall cupboard.
6 4-bushel laundry baskets.
1 clothes stick.
4 Mrs. Potts' sad irons.
2 iron rests.
1 dozen stocking stretchers.
1 dozen shirt stretchers.
1 sleeve board.
1 teakettle.
2 enamel pails.
Reagents.
Wax.
Soaps.

FIRST FLOOR.

Examining Suite—Waiting Room.

3 heavy plain wooden benches.

Surgical Examining Room.

1 examination table.
2 white enamel chairs.
2 white enamel stools, screw.
1 table.
1 desk table.
Instruments for simple dressings.

Examining Rooms.

Each to contain:
1 examination table.
2 white enamel chairs.
2 white enamel screw stools.
1 desk table.

Entry Bath.

Tub, set high.
1 table, white enamel.
1 infant scales set on table (Trommer).
1 roll wrapping paper attached under table.
1 stand scales.
1 white enamel chair.
1 white enamel stool, screw.

Cupboard to contain diapers, towels, shoes, shirts, stockings, night dresses, thermometer, chart, sheets, glass slides, ink and pens, twine.

Isolation for cases examined and waiting for Board of Health:

2 rooms containing toilets, running water.
1 white metal chair.
1 white enamel table.

Administration Suite—Reception Room.

Rug.
Mahogany center table.
Mahogany desk and chairs.
Mahogany settee.
Mahogany chairs, straight, 2.
Mahogany arm chair, 1.
Mahogany rocker, 1.

Office.

Rug.
Roll-top desk and chair.
Small flat desk and chair.
2 arm chairs.

SECOND FLOOR.

Typical Ward—12 Beds.

12 cribs.
12 mattresses, hair.
12 hair pillows.
12 feather pillows.
12 bedside tables, special pattern.
Nurses' desk, with rack for charts.
Desk, light.
Nurses' desk chair.
2 Wire screens for isolating units.
1 3-winged screen.
3 single screens.
2 low rockers.
2 straight adult chairs.
Thermometers.

Sun Porch.

1 low white enamel table.
8 kindergarten chairs.
2 low rockers.
2 wheel chairs.

Bath Room.

High tub.
Low tub.
Scales stand.
Low toilets.
Running water.
Mirror.
Thermometers.

Quiet Room.

1 crib.
1 mattress, hair.
1 hair pillow.
1 feather pillow.
1 table.
1 chair.

Individual equipment, kept by child's bed, except bed pan.

1 wash basin.
1 pus basin.
1 thermometer and jar.
1 comb.
1 fine comb.
1 tooth brush and mug.
1 small jar vaseline.
Bath blanket on shelf of bedside table for older children.

FIRST FLOOR.

Observation Department.

Each ward to contain:

2 large cribs.
2 hair crib mattresses.
2 feather pillows.
2 hair pillows.
2 basinettes.
2 basinette mattresses, hair.
2 small basinette hair pillows.
2 chairs.
2 white enamel tables (table inclosed on three sides with 2 shelves and towel rack at back).
1 single screen.
Running water, with soap solution, $HgCl_2$ 1-1000.
Nail brushes and doctors' towels over basin.

A better plan than this is to have all large cribs together and small babies together. Such a plan would necessitate a very large department.

Serving Room—Typical.

1 serving table.
1 steam table.
1 gas plate.
1 rack for folding trays.
Bed trays, 1 for each crib, excluding small babies.
2 waste cans (1 to be supplied clean when other is taken away).
1 chair.
Dish pan.
Drain basket.
3 serving spoons.
3 serving knives.
3 serving forks.
1 paring knife.
1 teakettle.
1 2-quart double boiler.
1 4-quart double boiler.
1 sauce pan.
1 fry pan.
1 steamer.
3 gray agate cups.
3 gray agate plates.
Supply cans—
Tea.
Coffee.
Flour.
Salt.
Sugar, granulated.
Sugar, lump.
Pepper.
Cocoa.
Crackers.
Mustard.
Egg poacher.
Lemon squeezer.
2 small bowls.
1 egg beater.
1 spatula.
1 soap shaker.
1 can opener.
1 corkscrew.
2 large pitchers.
1 large sugar bowl.
Dishes for each large child—
Cup and saucer.
Bread and butter plate.
Breakfast plate.
Soup bowl.
Sauce dish.
Egg cup.
Tumbler.
Vegetable dish.
For every baby—
1 mug.
1 plate.
1 soup bowl.
Silver to each child—
1 knife.
1 fork.
1 salt and pepper.
2 teaspoons.
1 soup spoon.
For large children—private patients—
1 silver creamer.
1 silver sugar bowl.
1 silver teapot.
1 silver coffee pot.

Pattern of dishes different for each floor of hospital.

Typical Surgical Dressing Room.

1 instrument sterilizer.
1 utensil sterilizer.
Hot and cold water sterilizer, small size.
1 dressing table.
1 stretcher.
1 dressing carriage, with irrigator.
2 white enamel chairs.
2 white enamel stools, screw.
1 instrument table.
1 large sink with overshelf for scrubbing-up articles.
Cupboards for supplies.
1 dressing pail, covered.
2 sets of dressing instruments with jars of tubing, packing, and dressings peculiar to this hospital.

Isolation Room—For Care of Suspicious Cases.

1 crib.
1 mattress, hair.
1 feather pillow.
1 hair pillow.
1 white enamel metal chair.
1 single screen.
1 nurses' couch.
1 couch mattress.
1 feather pillow.
1 white enamel table.

Bath room containing individual articles for patient.
Special articles provided:

Bed pan.
Urinal.
Pus basin.
Thermometers and jar.
Vaseline.
Comb, fine comb.
Wash basin.
Irrigating can and tubing.
Enema tube.
Hot-water bag.

Sink Room—Typical.

1 white metal table, 24x36.
1 white enamel stool, screw.
1 utensil sterilizer.
1 bed pan sterilizer.
1 gas plate.
2 rolling frames for canvas cloth bags.
24-hour specimen jars.
Small specimen bottles.
Disinfecting solutions.
Bed pans, 1 for each child, labeled.
Urinals.
Cleaning utensils.

Babies' Ward—Typical.

10 basinettes for very young babies.
4 to 6 high-sided small cribs.
1 nurses' desk with rack for charts.
1 nurses' chair.
3 low rockers, adult.
2 straight chairs, adult.
1 desk light.
1 examining table.
Hair mattresses.
Small hair mattresses.
Strictly individual articles in wall cupboard by each crib.

Baby Bath Room.

Equipment of mixing tank, with thermometers to indicate temperature.
Sprays for bathing infants.
Small low white table with dressing articles, as jar cotton, toothpick swabs, safety pins, needle, thread, powder.
2 very low white rocking chairs.
1 table with Trommer baby scales.
Ice chest, also heating closet.
Ice chest used for rack of bottles.
Heating closet, containing baby shirts, bath towels, baby towels, diapers, stockings and night dresses.
2 cans for diapers, 1 for soiled diapers, 1 for wet diapers.
Paper bags for cotton and waste.

Incubator Room.

1 electric incubator.
2 electrically heated cribs.

Private Corridor—Typical Private Room.

1 brass crib with hair mattress, hair and feather pillows.
1 nurse's couch with hair mattress, feather pillows.
1 bureau, with glass top.
1 table, with glass top.
1 armless rocker.
1 straight chair.
1 drop light.
1 electric fan.
1 screen.
Swing screen also at door.
Each room provided with individual articles for child.
2 rugs.

Floor covered with an imported linoleum, glued to cement foundation and flush with terrazzo baseboard.
Bath room and serving room on this floor as on others.

Operating Room Suite.

2 main operating rooms.
1 nose and throat room.
Doctor's room.
Nurses' work room.
Sterilizing room.
Sink room.
1 preparatory and anesthetising room.
Blanket heater and drying room.

Doctors' Room—With Bath.

1 willow couch.
1 center table.
2 straight chairs.
Lockers for clothing.

Nurses' Work Room.

Cupboards built in.
1 enamel work table 6x2 feet.
4 white metal chairs.

Instrument Sterilizing Room.

Hot and cold water sterilizer.
1 utensil sterilizer.
2 instrument sterilizers.
1 heater for salt solution.
Large dressing sterilizer.
Shelf for scrubbing instruments, etc.

Sink Room.

Sink—place for mops, brushes and cleaning articles.
Gas stove.

Operating Rooms.

1 operating table.
1 instrument table.
1 New York table.
Rack for instrument trays.
Sponge rack.
Irrigating stand.
Dressing sponge drum stand.
Utensil stand.
Standing light.
Stools for operators to stand on.
Enamel screw stools.
Anesthetist's table.

Equipment in nose and throat room the same, but specially made for nose and throat work.
Instrument cabinets built in.

List of Instruments.

2 Aneuryson needles (1 right, 1 left).
6 sharp curets (2 large, 2 medium, 2 small).
½ dozen single vulsellas.
½ dozen double vulsellas.
1 dozen 8-inch clamps.
½ dozen flat retractors.
½ dozen dull retractors.
½ dozen sharp retractors.
3 Kocher directors with perforation.
6 pairs tissue forceps with teeth.
6 pairs tissue forceps without teeth.
3 pairs small tissue forceps without teeth.
6 grooved directors.
4 tenaculum.
1 dozen probes (4 large, 4 medium, 4 small).
6 needle holders.
2 dozen curved artery snaps.
4 dozen plain artery snaps.
3 dozen small Kocher snaps.
4 dozen Kocher snaps, regular size.
4 intestinal clamps (2 small, 2 medium).
3 Crozier forceps.
Potaine aspirator and needles.
3-ounce metal syringe.
1 record syringe (needles assorted sizes).
6 pairs curved scissors.
4 pairs angle scissors.
4 pairs dressing scissors.
2 pairs stitch scissors.
Needles, assorted.
Knives, large and medium.
Bone and cranial instruments, complete.
Tonsil and adenoid instruments, complete.
8 pairs dressing forceps.
3 pairs nail scissors.
3 nail files.
Portable light.
6 ether masks.
3 Heister mouth gags.
3 regular mouth gags.
6 tongue forceps, 3 of each.
Tracheotomy instruments.
Intubation instruments, complete.
Filiform flexible rubber catheters.
Small self-retaining retractor.
4 Crile clamps.
Extra drums for operating room dressings.
Three dressing drums for each dressing room.

Linen Supply.

10 large sheets per bed.
10 draw sheets per bed.
6 quilted pads per bed.
3 spreads per bed.
6 pillow cases per bed.
6 face towels per bed.
4 bath towels per bed.
4 doctors' towels per bed, small.
3 dressing towels per bed.
1 medicine towel per bed.
4 wash cloths per bed.
10 bibs per bed.
6 nightgowns per bed.
30 diapers for each infant.
2 sets screen covers per screen.
2 sets window curtains per window.
2 sets couch covers per couch.
4 bureau and table covers per table and bureau.
12 napkins for each P. R.

For entire 125 beds—
200 hot water bag covers.
150 ice cap covers.
60 baby bottle warmers.
50 canvas bags for linen.

Miscellaneous.

For basinettes—
10 sheets each.
10 quilted pads each.
4 spreads each.

Blankets—
4 single bed blankets for each crib and basinette.
2 single bath blankets for each crib and basinette.

For entire house—
80 single blankets for operative cases.
12 pairs blankets for operating room.
50 outdoor or chair blankets.

Clothing.

Baby shirts, small size.
Baby shirts for larger children.
Stockings, cashmere, for small babies (white, blue, pink).
Stockings, cotton, for larger children (white).
Waists and garters.
Petticoats on waists.
Flannelette petticoats.
Drawers, flannel and cotton.
Shoes, high shoes for small children.
Shoes, a few larger sizes.
Slippers, all sizes.
Caps, a few.
Mittens.
Coats, a few.
Hoods, a few.
Colored apron dresses.
Colored rompers.
Pajama suits for little boys.
Bed jackets made of daisy cloth, different colors.
Restraints of canton flannel.
Flannel jackets and leggins for operative cases.
Flannel for baby bands.

Extra Articles—For Use All Over House.

Knee rolls covered with rubber.
Rubber sheeting.
Rubber pillow cases.
Rubber aprons.
Extra hair and feather pillows.
Scrap baskets.
Hot-water cans, for heating beds.
Croup kettles.
Electric stoves for above.
Racks for holding irrigating cans.
Back rests.
Pails with rack for warming bottles.
Cradles.
Sand bags.
Vases.
Electric fans.
Thermos bottles.
2 air beds.

Census Bureau's List Of "Death Causes."

The bureau of the census, Department of Commerce, has recently issued a new edition of a vest-pocket list of "causes of death." The terms used are part of an internationally accepted nomenclature, in the preparation of which the "Bellevue" and "London" nomenclatures were consulted, with many of the references taken from the nomenclature issued by the registrar-general of England and Wales.

Two years ago the first issue of this booklet was sent to every physician in the United States, and the census bureau reports that it has helped materially in simplifying the vital statistics of the country and bringing them into such order that far better deductions can be made.

Hospitals are interested in the governmental list because one of the difficult hospital problems is to get death certificates made out acceptably to local, state, and national authorities, especially at points where there is no very responsible health service. Every hospital should send to the census bureau for this little book, and should make their death certificates conform to its provisions, excepting when local health departments have their own system.

Philadelphia Children's Hospital Advertising.

The Children's Hospital of Philadelphia, a complete set of new buildings for which are under way, is issuing a novel and successful series of pamphlets on the needs and growth of the institution. Progress on the new buildings is shown from issue to issue in picture form, some in colors, and there are also interesting snap shots of the children now occupying the old buildings. Little historic incidents in the career of the hospital are told in a most entertaining way, and vital facts are given.

Altogether four of a series of seven booklets have already appeared. This method of attracting intelligent notice to a most worthy philanthropy seems exceptionally good. It is to be hoped that the large amount of money needed, about $1,000,000, will be forthcoming.

List of New Members of the American Hospital Association.

Chas. H. Adams, member State Board of Charity, 590 Orient avenue, Melrose, Mass.

M. M. Bosworth, trustee City Hospital, Memphis, Tenn.

Dr. Louis C. Bosher, trustee Stuart Circle Hospital, 22 East Franklin street, Richmond, Va.

W. T. Barbour, trustee Grace Hospital, 1360 Jefferson avenue, East Detroit, Mich.

Miss Margaret S. Bailey, assistant superintendent Wesson Memorial Hospital, Springfield, Mass.

Dr. O. F. Ball, Modern Hospital, Metropolitan Building, St. Louis, Mo.

Miss Mary R. M. Beer, superintendent St. George Hospital, Iron Mountain, Mich.

Miss Donna G. Burgar, superintendent Noble Hospital, Westfield, Mass.

Chas. Butler, trustee Society for Relief of Orphans Hospital, 16 East 23d street, New York.

Dr. Richard C. Cabot, physician Massachusetts General Hospital, 1 Marlboro street, Boston, Mass.

Dr. Robt. G. Cabell, Jr., superintendent City Hospital, Richmond, Va.

Miss Lillian Carson, assistant superintendent West Philadelphia Hospital for Women, Philadelphia, Pa.

Chas. W. Comfort, Jr., M. D., superintendent New Haven Dispensary, New Haven, Conn.

Miss Annie E. Crozier, R. N., superintendent Heaton Hospital, Montpelier, Vt.

Dr. Robt. L. Dickinson, M. D., physician Brooklyn and Episcopal Hospital, 168 Clinton street, Brooklyn, N. Y.

Miss Katherine Dütting, assistant superintendent Franklin County Hospital, Greenfield, Mass.

Miss Annie J. Fletcher, matron Lynn Hospital, Lynn, Mass.

R. P. Fox, superintendent Babies' Hospital, Philadelphia, Pa.

A. O. Fonkalsrud, superintendent Norwegian Hospital, 425 Fourth avenue, Brooklyn, N. Y.

Frank Graham, gynecologist Memphis City Hospital, Memphis, Tenn.

Frederick D. Greene, general secretary Hospital Saturday and Sunday Association, 105 East 22d street, New York.

Miss Susan V. Gifford, assistant superintendent New York Hospital House of Relief, 67 Hudson street, New York.

Louis Hornheimer, trustee Ohio Valley General Hospital, Wheeling, West Va.

Nellie R. Hamill, superintendent Williamsburg Hospital, Brooklyn, N. Y.

Henry F. Harris, trustee Worcester City Hospital, 340 Main street, Worcester, Mass.

Adeline Henderson, superintendent of nurses New York Hospital, 8 West 16th street, New York.

George F. Holmes, assistant superintendent New York Hospital, 8 West 16th street, New York.

Helen Sinclair Howes, social service worker, 414 East 55th street, New York.

Henry James, Jr., manager Rockefeller Institute, 66th street and Avenue A, New York.

Fred H. Klaer, member Hospital or Charities Association, University of Pennsylvania, 1805 Pine street, Philadelphia, Pa.

Alice L. Lake, superintendent of nurses Worcester State Asylum, Worcester, Mass.

E. M. Lawler, superintendent of nurses Johns Hopkins Hospital, Baltimore, Md.

B. Malone, surgeon Memphis City Hospital, Memphis, Tenn.

James W. Manary, M. D., Boston City Hospital, Boston, Mass.

Greta Mabery, R. N., superintendent Massachusetts Babies' Hospital, Jamaica Plains, Mass.

Chas. S. Millet, trustee Millet Memorial Hospital, East Bridgewater, Mass.

Chas. W. Mosley, trustee Anna Jacques Hospital, Newbury Port, Boston, Mass.

Rachel Mulheron, assistant superintendent Grace Hospital, Willis and John streets, Detroit, Mich.

May MacLeod, superintendent Bessey Hospital, 845 Beacon street, Boston, Mass.

Alexander J. McRae, M. D., Wilkes Barre City Hospital, Wilkes Barre, Pa.

Miss Clara D. Noyes, superintendent of nurses, Bellevue Hospital, New York.

Alfred Paull, trustee Ohio Valley General Hospital, Wheeling, West Va.

Lucy J. Potter, superintendent Trull Hospital, Biddeford, Me.

Elizabeth E. Rae, R. N., superintendent Hospital of the Woman's Medical College, 2121 North College avenue, Philadelphia, Pa.

Edward W. Sheldon, trustee New York Hospital, 46 Park avenue, New York.

M. E. Stevenson, R. N., Memphis City Hospital, Memphis, Tenn.

Geo. H. Stone, M. D., assistant superintendent Boston City Hospital, Boston, Mass.

Nina G. Sinnott, superintendent of nurses New York Hospital, New York.

Lawrence E. Sands, trustee Ohio Valley General Hospital, Wheeling, West Va.

Dr. Homer H. Sheffield, 2014 Lincoln street, Berkeley, Cal.

Dr. John W. Sluss, superintendent City Hospital, Indianapolis, Ind.

Barker Swift, surgeon Union Hospital, Fall River, Mass.

Dr. H. C. Tomlin, superintendent Western Hospital, Toronto, Ontario.

F. C. Townsend, trustee S. R. Smith Infirmary, 45 Nassau street, New York.

Miss Marjorie M. Taylor, superintendent Physician and Surgeons' Hospital, San Antonio, Tex.

Mary E. L. Thrasher, superintendent Robert Bent Brigham Hospital, 780 Beacon street, Boston, Mass.

Dr. A. Trapgold, superintendent Nanticoke State Hospital, Nanticoke, Pa.

J. F. Ward, assistant superintendent Memphis City Hospital, Memphis, Tenn.

Dr. A. H. Wilkinson, assistant superintendent New York Hospital, 8 West 16th street, New York.

Dr. Edmund W. Wilson, assistant superintendent Boston City Hospital, Boston, Mass.

Howell Wright, superintendent Cleveland City Hospital, Cleveland, Ohio.

Dr. M. B. Whyte, Riverdale Hospital, Toronto, Ontario.

Phoebe E. McCaffrey, superintendent of nurses, Solvay General Hospital, Detroit, Mich.

Annie W. Goodrich, state inspector Education Department, Albany, New York.

Polhemus Lyon, chairman Cape Hospital Board, Box 8, Cape Town, South Africa.

Gift Days for Hospitals.

Apple Day in Oregon.—November 18 was "apple day" in the big-red-apple state. In nearly every city and town apples became, for the day, the legal tender, and the receipts were turned in to the hospitals for the benefit of the sick. At the theaters apples paid for tickets, and also in many restaurants, hotels, and places of amusement. All the receipts were given to the hospitals as Thanksgiving gifts.

Annual Sale in Corning.—The annual sale of the Corning hospitals conducted by the members of the various chapters of ladies who make it their duty all the year around to work for the support of the hospitals, was held at the Odd Fellows' temple, Thursday afternoon, November 5, at 2 o'clock, to continue through November 6 and 7. The exhibit of fancy work this year was greater and more pleasing than ever. Supper was served at the hall in the evening, and there was dancing.

At Wijhi, Holland, a society has been organized whose aim is to bring about improvement in the care of the sick, especially the home care. It is proposed to establish, in addition to a visiting nurse system, a bureau for loaning apparatus and appliances for the care of surgical and difficult medical cases in their homes.

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 26.

Hospital Boards of Trustees.

The methods of some of our boards of trustees are antiquated and in need of reform. Customs that these same men would never think of following in their own business are used at the hospital. In one large hospital a medical superintendent is employed, but he is given little responsibility. Small questions of detail are referred to committees of the board. The superintendent cannot fix the salary of an engineer or fireman without the sanction of a committee. Such a policy leads to delay and dissatisfaction. No man of ability will long retain a position under such restrictions. The greatest efficiency comes when the superintendent is given large responsibility and is required to produce results. The present anomalous condition of some hospitals is perhaps due to the fact that the trustees' methods are the same today as when the hospital was smaller and ways which are now obsolete were more workable.

Many hospital directors do not require the presence of the superintendent at their meetings. These same individuals would not think of discussing the business affairs of a manufacturing or transportation corporation of which they are directors without the presence of the executive officer, and yet their knowledge of these business matters is usually greater than is their knowledge of the complex affairs of a great modern hospital.

We would all like our trustees to have a more intimate knowledge of our problems. One way to secure this is to require the presence of the superintendent at board meetings.

FREDERIC A. WASHBURN.

The Fifth or Hospital Year.

The fifth "clinical year" for the practical application of the knowledge gained in scientific study by the candidate for a medical degree is receiving careful study and discussion on the part of medical educators in several parts of the country. That the student should have the opportunity of making practical application or test of his theoretically-gained knowledge is generally demanded. The means to this desired end are advisedly the basis of discussion.

How shall the embryonic student apply his knowledge and acquire the art of practicing medicine? Shall we permit him to acquire his art as we acquired ours, at the expense of the patient and the mortality statistics, or shall we supervise his acquisition of practical knowledge by obligating him to take a "fifth clinical year," where from necessity he must act as an assistant in the closest possible proximity to the real problems in medicine and surgery? That the large general hospitals offer the best field for practical training in the "fifth year" has been alleged and conceded by many. Granting that this admission is true, it obviously follows that the efficiency of the practical work will depend on the surrender of the time and talents of the clinical teachers of medicine and surgery in the communities where this training is attempted. A prerequisite to the efficient use of the "fifth year" is a classification and standardization of hospitals. A serious move has been made in this direction by a committee of the American Medical Association and a committee of the American Hospital Association. It is to be hoped that the Carnegie Foundation can be induced to take up this work as they took up the work of standardizing and classifying medical colleges. Assuredly it is quite impossible for the hospitals to classify themselves and, to a certain extent, standardize their work. It is well known that early attempts to standardize the medical colleges from the inside were lamentable failures.

It is known that two viewpoints exist in reference to the "fifth year" as an available "clinical year." Several colleges have already absorbed the fifth year as a part of their regular curriculum, and will demand that the "clinical year" be the sixth year. These differences must be recon-

ciled. Obviously the basis of such a reconciliation must be a greater uniformity of requirements for admission to undergraduate medical schools and a country-wide uniformity in the teaching curriculum covering the first four or five years. It is a far cry from the high school platform to the A. B. and kindred degrees. Yet this difference exists in admission requirements of class "A" medical colleges. Before a "hospital year" can be made obligatory, it will be necessary to reconcile these differences.

The Council on Medical Education of the American Medical Association in their report to the House of Delegates at the last meeting showed an astonishing number of hospitals throughout the country that were struggling along without medical interns. Some of the replies received indicated that many of these hospitals were "happily" struggling without a resident staff. The proposition that many well-conducted hospitals isolated from teaching centers can do better without interns than with the young medical graduate can be readily proven.

Since reading this report of the Council giving the number of interns in hospitals and the number of hospitals operating without interns, the writer has had a great desire to have the investigation pursued still further in the direction of an attempt to ascertain the number of young medical interns who completed one year of hospital service.

The small hospitals without resident staffs are a community necessity, and many of them will have to be divorced from the general problem of medical education. An obligatory, or even an optional, "fifth year" will per force of emulation soon include many of these hospitals in the class with the large general hospitals, and all standards of service will be elevated by the "clinical year."

It would be a mistake for medical educators to assume that hospitals have been established for the teaching of medicine rather than for the care of the sick. The primal object of every hospital is the skilled care of the sick. Rather should we consider hospitals as a vehicle and adjuvant to the practical application of the scientific knowledge of the medical student; in other words, the medium through which he may be taught and supervised in the application of his art. It is true that the first aim of hospitals—the care of the sick—will be enhanced and improved by scientific teaching of young medical men in hospital wards. This, however, will be the resultant of associated endeavor, and is not a basic argument for the use of hospitals as teaching centers.

An experience of many years in hospital work leads me to assert that the large general hospitals of the country will welcome either an obligatory or optional "fifth year," and in the effort to meet the requirements of the situation they will put forth every effort to place themselves in hospital class "A."

Much of the criticism directed against hospital organization in the past is a direct reflection on the medical profession. The jealousies and shortsightedness of professional management have brought about the nonprofessional or lay management of some of our best hospitals. It is possible that this is a direct sequence of the lack of executive and administrative training on the part of medical men. It is not surprising that a profession as absorbing, humanitarian, and scientific as the profession of medicine finds that its votaries lack breadth and acumen in business matters.

Personally, the writer believes in lay boards of trustees for hospitals, as they are more likely to be free from medical politics and professional influence or entanglements. He is also a firm believer in the systematic and practical training of medical men for administrative hospital positions as a solution of the many problems that appear as the result of faulty organization and administration in many of our hospitals. This question of organization has an extremely important bearing on the efficiency of any given hospital in providing a "fifth clinical" year for medical students.

Pending the classification and standardization of hospitals, it is entirely feasible for many of the class A medical colleges of the country to arrange affiliation with well-known general hospitals for an optional "fifth year." This step has been recommended by the Council on Medical Education of the American Medical Association, and assurances have been given that the experiment will be tried in more than one teaching center. That the effort will be eagerly watched and its lessons welcomed is assured. Much encouragement in this direction has already been given to the medical colleges by hospital authorities in several centers, and hospital administrators should welcome the attempt as a step toward greater efficiency and stability in resident hospital staff service. It is to be hoped that the development of this idea in the future will bring about the recognition of hospital diplomas that will be as eagerly sought for as were the certificates of the old London hospitals fifty years ago.

Twenty years ago barely 20 percent of the graduates of our medical colleges were able to receive hospital positions. Owing to the rapid increase in the number of hospitals and a decrease in the number of medical graduates, it is now possible for nearly 80 percent of the graduates of our medical schools to take residentships

in hospitals for one, two, or three years. A "fifth clinical year" will increase the percentage of opportunities for undergraduate medical students, and will insure greater stability and earnestness on the part of the intern. The hospital, in its turn, will be forced to provide adequate practical teaching facilities, staff libraries, and improved resident accommodations. If good order, satisfaction, and efficiency are to result from the "fifth year," it will be necessary to provide adequate scientific supervision on the part of the best clinical teachers. Much of the routine work now carried out by interns must be relegated to other hands, and the progress of the student's application of theory to practice must be guided by strong hands.

The trend of discussion and opinion is slowly centering toward the establishment of a "fifth hospital year" as a prerequisite for state license. It is evident that but a few years will elapse before it will be a requirement. From the standpoint of the medical educator and the medical student it will prove of inestimable and far-reaching value, and from the viewpoint of the hospital it is a consummation to be desired.

WARREN L. BABCOCK.

Sanatorium Methods—II.

Frequently in these columns we have asserted the value of cooperation in the treatment of difficult cases—not only in sanatorium practice, but in general hospital practice, and eventually in private practice. This method, when fully developed in this country, may properly be called the American method, and will prove a far more sound, honest, and scientific practice than that of the famous continental and British watering places. It is true, as one of our contributors stated in our last issue, that an ideal health resort, after the European model, state controlled, and free alike to all venders—whether hotel keepers or shop keepers, theatrical troupes, amusement promoters, or physicians—would be a very pleasant place, would do much good in the gross, would be a lucrative investment, and of world-wide renown. But the earnest scientific man, properly trained and intent on promoting medicine, shrinks from the thought of such an association. Let us by all means surround our sanatoriums and our patients with every accessory of comfort, uplift, and happiness —physical, psychical, esthetic. No one more than this writer appreciates the value of all these things. But we must keep such accessories strictly in hand; strictly directed, immediately or remotely, by practitioners of scientific medicine. In addition to the pleasant and festive features of the continental resorts, we see among them numerous independent physicians, free of control and practicing unmoved upon the bodies of the sick. This is a horror which we trust may never secure a stronger foothold than at present, even in America. "What!" said a well-informed German internist to this writer, "you would go to those German baths? But why and to whom? There are twenty-seven doctors there—bad fellows; what you call quack; no one fit to treat my cat. Such is our amiable habit. We are free to fleece you Americans and English, and the Government smiles." Doubtless he spoke bitterly, and more than the truth; but suspicion lingers. Of course, there is a certain value in our contributor's suggestion that "a physician could refer his patients to another physician in whom he has confidence in such a resort for a day, for a month, or for six months, without the fear that his patient would be retained twice as long as the period for which he was sent." Very true, but the ideal American sanatorium, with its trained cooperating staff, should be able to do much more for physician and patient than merely to carry out some prearranged routine treatment in a given time. Such a staff should be competent, with its immense experience of similar cases, to help the physician with advice and the patient with those measures properly indicated in the progress of the disease and its frequent complications. As for the time of stay in the sanatorium—who may predict in advance the length of time suitable for treatment? And we must assume honesty and fair dealing on the part of such a proper sanatorium staff as we have in mind.

Then, there is that further question of the relation between the medical staff and the business management. A sanatorium or a hospital conducted purely for commercial purposes must necessarily be in the hands of a business man of the hotel-manager type, and is in principle an abomination unworthy of discussion in a serious medical journal. A proper sanatorium is a medical institution, and should be under the direction of a physician. Unfortunately, this obvious fact is sometimes disregarded, and the trustees or other responsible authorities employ a business manager, who is placed over the medical director and the staff. In such a case the sanatorium is bound to suffer from the abuses our contributor suggests— "the business manager takes the ground that it takes so much to get the patient to the sanatorium, and therefore the physicians must keep him there as long as possible; that the medical men have been expected to order as many of the more expensive forms of treatment as possible for the good of the service; that the physicians in

certain institutions have been required to send misleading reports to the family . . . in order to induce a longer residence, and that at certain other institutions the physicians are required to try to make the patient believe that that sanatorium is the only place in the world where he stands the least chance of securing the improvement of his condition." Revolting as these bits of gossip may be, they are certainly current. Such conditions as are here described seem inseparable from a purely commercial business management. Happily, these practices bring their own punishment. They become known, they destroy confidence, and they alienate the medical profession. The wretched sanatorium physicians, downtrodden by the business management, must inevitably decline in morale and efficiency, or else they must rebel and retire, denouncing the institution from which they escape. To the honor of the medical profession, such rebellion is not uncommon.

We do not believe, however, that the panacea is a development of such a sanatorium into a great state enterprise, with multiplied and extended commercial activities. When a medical institution escapes from good medical tradition and allies itself with amusement features, however psychically valuable, it is treading on dangerous ground. Amusement and recreative features are useful servants, but not for a moment must they be regarded as allies and as equals. We cannot touch pitch and remain undefiled.

JAMES G. MUMFORD.

The American College of Surgeons.

There was held in Chicago during the past week a congress of surgeons. Nearly five thousand medical men attended. Many of them did not pretend to be surgeons, but they visited the conference to see modern surgery. Many clinics were held.

At the end of the conference eight hundred of the visitors were inducted into fellowship in the American College of Surgeons, an institution which is an outgrowth of the clinical congress which has been held for three years past. As a result of the selection of the eight hundred Fellows there are many heart-burnings, some jealousy and envy, and many prophecies and misgivings as to what the future holds for this new organization.

THE MODERN HOSPITAL welcomes the American College of Surgeons. We believe that it has an opportunity for great usefulness, and, if its course shall be steered right, its creation should result in less surgery and better surgery in this country. We all know very well that incompetent men have been doing needless surgery, and that it is the tendency of the time for men to proclaim themselves surgeons who have had neither the training nor the experience to justify major work on their part.

A study of the list of eight hundred men who form the nucleus for this new organization is reassuring. Most of them are known to be men of experience and training, and most of them are known to be men of high ideals. Unfortunately some of them are not, but no group of eight hundred people could ever be brought together that could not be criticised. Without doubt fellowship in the American College of Surgeons will bring dignity and prestige, but, if this is all it brings, the American College of Surgeons will not live long. These men have been exalted or have exalted themselves into high place in the councils of their profession, and with this high place they must charge themselves with proportionately great responsibility.

From the hospital administrator's standpoint there are many weaknesses in the surgery of our day in this country. Is it possible that this new association can formulate rules that will become the standards and guide of their fellows? Is it possible to establish some definite understanding concerning some things that we hospital people greatly need?

There is no doubt that surgical technic from the standpoint of the hospital administrator is growing top-heavy. It is taking too many people in the operating rooms to wait on the surgeon. Operating rooms are becoming littered up with too much apparatus and furniture. The technic concerned in the nursing department and in the intern department is growing too complex.

There was an immense amount of truth in the statement of Dr. John B. Murphy a few days ago that medicine and not surgery would be at the forefront in the next decade. Today it seems that in every hospital every department must be subordinated to the surgery. Will not this new association give consideration to this suggestion by placing modern surgery in its proper attitude to and to its proper dimensions in the modern hospital?

Going back over a few years, it seems to at least this writer that the nurse is not receiving her patient back from the operating room in as good condition as he ought to be in; evidences of shock seem to be growing, and the patients seem to be longer in recovering from operation than they did a few years ago. Why is this? Are surgeons taking too long with their operations? Are we not giving the best anesthetics that we should give? Is it the hospital's fault that pa-

tients go back in deeper shock than formerly, or is it the surgeon's fault? Will the American College of Surgeons answer this question in their deliberations?

Another thing. Is it the intention on the part of the American College of Surgeons to say, by inference at least, that only those men who are having experience in the large metropolitan hospitals are equipped to do surgery and that the others should forego that branch of medicine, or is this college to welcome all men in metropolis and in village with the sole credential that they are doing sound surgery? We know very well that some men in most modest environment are doing some of the best work of modern times, and that it is not alone those who have vast material who are getting the best results always. One visiting a large metropolitan charity hospital must become impressed with the fact that there is a wonderful waste as well as wealth of material.

This American College of Surgeons comes into existence with far from a universal welcome. It is on trial. Let us see whether it can justify itself in the good it can do to the world in general and to the profession of medicine. If this question is answered in the affirmative, the college will live to accomplish great things. If it is not so answered, it will not live.

JOHN A. HORNSBY.

Save the Hot Springs.

A concerted movement is being made to create a great water cure center at Hot Springs, Arkansas—something after the plan of the European "baths." For many years the curative properties of the Hot Springs waters have been recognized. The government many years ago, because the springs were being exploited by private parties and money-making syndicates, created a government reserve about and including most of the springs, woods, and hills. A few concessions have been let, since that time, under circumstances that would seem to protect the public, and the government has built hospitals for its army and navy men. The B'nai Brith, a great Jewish society, has a sanatorium there, and the Masons have already purchased ground in the city proper for the same purpose.

There are plans under consideration now by which the government is to be asked for other concessions, the Order of Eagles, the Order of Moose, and others being mentioned as making preparations for an appeal to Congress in this behalf.

In the meantime the American Medical Association, always foremost in work that concerns the public health, has been trying to obtain the creation of a government commission to study the waters of the Hot Springs chemically, physiologically, and therapeutically. This move was first made at Atlantic City a year ago. Nothing was accomplished, except that the government scientists stationed at Hot Springs began such an investigation on their own initiative. The matter was again presented at Minneapolis, and under rather tragic conditions. One of the leaders of the movement was Dr. H. M. Hallock, who wrote this year's report to the association and died just before the convention. His report was discussed at length in the Section on Pharmacology and Therapeutics, and it was agreed that pressure on the government should be renewed. Without any doubt this very necessary work will have the active support of the war, navy, and public health departments, and eventually the commission will be created and the work done.

In the meantime no irrevocable concessions should be made that would in the slightest degree interfere with future plans for a homogeneous and harmonious development of the springs by the federal government for the benefit of all the people.

The destruction of large areas of the city of Hot Springs by fire a few months ago furnishes an excellent excuse for reopening the whole question of the future of the Springs, and perhaps some radical changes may be introduced that will give back to the public a magnificent health resort.

Let us take a lesson from Germany in regard to the control of our curative waters. Baden-Baden, Neuheim, and Carlsbad have been built up as "water cures" under government regulation and restrictions, and, without taking into account the real value of those waters in the cure of disease, they have brought to Germany more visitors annually than all the beauties of the Rhine, all the art of the German galleries, and all the sciences in the famous German schools.

There may not be very much positive therapeutic virtue in hydrotherapy as a physical agent or physiologically, and we need not debate that question, but it is very certain that any great center set apart in which people can find an "atmosphere," a regimen, and restrictive living will be of untold value, just as a man in the penitentiary will get better of diabetes, and just as a patient with uncompensated heart will get better in the atmosphere and under a diet in the hospital.

This country needs "baths" and "water cures" and "springs," and, as our processes of living become more and more violent every year, the need must grow. But these retreats will be of real

curative value in proportion as they are properly controlled and regulated. The waters of Saratoga ceased to be valuable in the presence of gambling and politics. The German "baths" have been badly hurt as "rest cures" and "water cures" since Monte Carlo set up branches in their casinoes.

There are a great many water cures in this country—places to which the sick could be sent for rest, for diet, and for a regime of proper living—but we should see to it that they are kept for the sick, and now is the time and Hot Springs is the place to build a high fence of government control and ownership, and a hard and fast rule of police domination. There are enough "Coney Islands," "Venices," and "Dreamlands" for well people.

Is This the Duty of the State?

It is to be very seriously doubted whether the recently enacted legislation in many states compelling cities, towns, and counties to build and operate tuberculosis hospitals is the final and best solution of the tuberculosis problem. While it is unanimously agreed that aggressive measures are necessary in dealing with the great white plague, there is no particular reason why there should be quite so much hysterics about it, and we will get further if we employ rational means and pursue logical courses.

California is today overrun with "lungers," and the permanent population of that state is being compelled to provide for them. It is true, many of them get well, and in turn take up their part of the burden of caring for others, but a large percentage of California's population today is made up of sufferers from tuberculosis. Only the favorable climate and tremendous productiveness of the state make it possible for the well people to take care of those who come to them sick.

It is notorious that the poorest communities have the most tuberculosis, and that those least able to support hospitals for this class of sufferers are compelled to do the most.

Many parts of the country are beginning to rebel against the new mandatory laws, and the officials are finding it necessary to be very lenient in enforcing them.

The latest protest comes from Massachusetts, of all states the least likely to shirk its duties regarding the public health. Haled before a recess summer committee of the state Legislature the other day to explain why they had not complied with the law, Fall River and Lowell uttered their complaint and asserted their judgment that the law was unfair. Dr. John H. Gifford, a prominent physician of Fall River and the representative of that city's Chamber of Commerce, was the spokesman, and in a long argument he insisted it was the duty of the state to build and operate these hospitals. Lowell followed, pleading rather that the city knew its duty, and that the state should build and conduct whatever hospitals it saw fit, without compelling any part of the state to assume burdens which were too heavy, and of whose use there might be doubt, in so far as individual communities were concerned, however beneficent the law might be as a general purpose.

Freeholder John Daly, of Long Branch, N. J., has also raised the question of the justice of compelling small communities to build and conduct such an institution, whether it were needed locally or not. So far as his community was concerned, he said, it would be far cheaper to send their few consumptives to other places and pay for their keep, and he therefore refused to vote money to buy a site for a tuberculosis hospital.

In Texas the antituberculosis league is preparing to provide details under which the counties shall comply with the law passed last winter. Nobody will question the singleness of purpose and the high motives that actuate the members of the league, but the fact that they are finding such a wide variety of conditions throughout the state and so much difficulty in adjusting the law, and their own addenda in the shape of details, to these conditions, serves to emphasize the question whether these laws are wise.

Many years ago, when fewer of us were insane, and when there were fewer of us to become insane, small communities, especially cities and counties, built and conducted their own insane asylums; now Wisconsin is the only state in the Union in which the counties maintain their own asylums. There have been many excellent reasons for this adjustment of the problem of insanity, and almost exactly the same reasons will appeal to the analytical thinker as applying to tuberculosis hospitals.

Is Insanity Increasing?

Dr. W. Maule Smith, in a recent article on "The Size of Hospitals for the Insane and Feeble-Minded," in the Boston *Medical and Surgical Journal*, strikes one of the sanest and most convincing notes that we have heard in many a day touching a topic on which there has been very much hysteria lately.

"The 'tendency to dementia' ought not to be the usual issue for the majority of the insane," he says. "This tendency largely arises from our want of knowledge of exact causation and mode of treatment, and the tendency in the opposite direc-

tion can be reached only when more abundant opportunities are provided for investigation. The day is past for 'time is the great healer' to be used when speaking about the treatment of insanity; on general medical lines I venture to say there is nothing very remarkable in the majority of cases of insanity, and there is no reason whatever why this majority should not belong to the recoverable forms of disease. But so long as we remain comparatively inactive and are content to merely house and care for the sufferers, and to make no widespread effort to reach the root of the evil, so long will public bodies continue to expend money without progressive results."

The alarmist cry about the increase of insanity reminds one of the recent report of the United States Army Medical School on the subject of "Increase of Syphilis in the Army." It was found, in the course of a long series of experiments, that approximately four times as many young recruits had syphilis as was the case ten years ago. Further inquiry, however, revealed the fact that all this vast increase dated from the employment of the Wassermann and luetin tests. What had happened was better diagnosis, and not more cases.

Opportunity for Profitable Discussion.

The two series of articles, one from the Johns Hopkins Hospital and the other from Hackley Hospital, Muskegon, Mich., are beginning in this number. It is to be expected that these papers will be of immense value to the hospital people, but it is not presumed that all will agree with the proposals and with the methods in vogue in either one of these institutions. Those who disagree with either the Johns Hopkins method or the Hackley Hospital method of doing things will have excellent reasons for their belief in their own way of doing things. The hospital people will be quite as well served by a presentation of these other methods and other ideas as they will by the original papers. Therefore it is hoped that these two series of papers will bring forth a wide, active, and profitable discussion. The writers of the papers will be glad to take up any problems that come up as side issues. Let us hear from those who have ideas of their own. Nothing will help us so much as a good, live discussion.

Final Arrangement of Dr. Smith's Papers.

Dr. Winford H. Smith, Superintendent of Johns Hopkins Hospital and one of the editors of THE MODERN HOSPITAL, who has kindly agreed to give us a series of eight papers on the intimate, inside administration of a large general hospital, with special reference to the famous institution of which he is the head, has revised the schedule of these papers, and as they now appear they will occur in a better sequence than the original schedule, made by another of the editors. The new schedule, by months, follows:

December—The organization of the Johns Hopkins Hospital, showing the manner in which the hospital, the university, and medical school are all bound together by the board of trustees, the medical board, and the advisory board of the medical faculty, etc., outlining briefly the administrative and medical organization. By Dr. Norton, assistant superintendent.

January—The organization of the out-patient department. By Dr. Seem, assistant superintendent.

February—Admission of patients, history taking, care of histories, etc. By Dr. Van Norman, assistant superintendent.

March—The organization of the nursing department. By Miss Lawler, superintendent of nurses.

April—The organization and management of the housekeeping department. By Miss Crawford, matron.

May—Purchase, preparation, and service of food. By Miss Atwood, chief dietician.

June—Purchase, preparation, and distribution of drugs, medicines and medical supplies. By Dr. Norton.

July—Surgical operations and surgical dressings. By Dr. Seem.

August—Ward waste and what is done with it. By Dr. Van Norman.

Dr. Hoffman's Vital Problems.

An article by Dr. Frederick L. Hoffman, statistician for the Prudential Life Insurance Company, on the subject of the tabulation of the vital statistics of the Memorial Hospital of New York for the treatment of cancer appears elsewhere in this number. The figures Dr. Hoffman gives us and the manner of their presentation are extremely illuminating. It is such figures as these, presented in the way that these are presented, that will eventually bring us some excellent standards by which we may attack the big problems of our time, not alone in hospital and kindred administration, but problems that have to do intimately with the broadest economical affairs of this most complex epoch.

Such statistics must lead into occupational channels, into eugenics, into the perplexities of consanguinity, and into that as yet unexplored problem in this country that concerns the intermingling and intermarriage of the various transplanted peoples.

It is to men like Dr. Hoffman, with his analytical mind, that we must look for the scientific solution of these multiphase problems. These figures of his, while illuminating in themselves, really form a guide by which the rest of us may go on and prosecute the necessary inquiries.

An Efficient Worker Retires.

The resignation of Dr. A. J. Ranney as superintendent of Lakeside Hospital, Cleveland, has been announced, to take effect December 1. Dr. A. R. Warner, who has been assistant superintendent, becomes superintendent. Dr. Ranney has meant very much to Lakeside, and his administration has guided that fine institution until it is now respected as one of the best hospitals in this country. The hospital world has been greatly indebted to Dr. Ranney in many directions, and loses an able, efficient worker in his retirement. Lakeside will have the condolences of the hospital people everywhere, mingled, however, with the sincerest congratulations that so able a man as Dr. Warner is at hand to take the banner of progress laid down by Dr. Ranney. The ideals and principles that have made Lakeside what it is are in excellent keeping. May the vigor and the enthusiasm of Dr. Warner keep Lakeside ever in the front rank.

An Excellent Scheme of Intern Service.

The New Orleans Charity Hospital has set in motion an intern organization that is entitled to more than passing notice. The hospital has 1,000 beds, and there are thirty interns whose services rotate through the various branches of medicine during the two years of their incumbency. Over these interns, under the new order, are to be four resident past-interns—one to have charge of medicine, one of obstetrics and gynecology, and two of the two surgical services. These men are to be chosen by competitive examination from the outgoing intern staff, and each will retain the place for which he is chosen during the whole year. These four men are to receive $600 per year each.

This organization will doubtless give the very highest order of service to the visiting physicians, to the patients, and to the hospital, and it will, in the course of a few years, develop a group of young men of very special excellence in their respective branches of medicine.

Political Patients in Municipal Hospitals.

Recently, as the result of a political upheaval, it transpired that an investigation was made in the Cook County Hospital, Chicago, to learn whether there were "abuses of charity." It was found that many well-to-do people were being cared for there as friends of influential politicians. The same condition was found to exist at the Oak Forest Infirmary, "the poor farm." Things are better now, but it may not be inopportune to suggest that other communities may be in the same condition—the "quiet rooms" and "recovery rooms" occupied by the friends of political grafters.

Municipal hospitals all over the country are crowded. How many of the patients are "warden specials," "friends" of aldermen, and grafters from everywhere?

Hospitals and Newspaper Publicity.

Hospital boards and administrators will do well to read and think about Mr. Maul's paper on "Publicity" in this number of THE MODERN HOSPITAL. If we are to look for support from the public, moral as well as material, we must recognize the public's interest about everything concerned in hospital work, and its right to know what is going on. If there has been an accident, even a preventable one, it will not be lessened, but greatly exaggerated, by attempts at secrecy and suppression, and the hospital that frankly acknowledges the truth and deplores the facts will fare best in the public's esteem.

Even if, by a happy chance, we might be able to hide something for the moment, we cannot be sure that it will not confront us at a most inopportune time and do real damage. Better confess when the thing happens, even if the occurrence was due to your own carelessness or neglect.

Index for Volumes I and II.

Volume I of THE MODERN HOSPITAL closes with the present number, the volume consisting of the four numbers respectively for the months of September, October, November, and December, 1913. Volume II will begin with January and end with June, 1914, and each succeeding volume will consist of six numbers, or two volumes for each calendar year. It has been deemed advisable not to print in the present number an index of articles for volume I, but to print in the June (1914) number an index of articles in volumes I and II.

The Humane Limit.

Practically every city in the United States has a dog catcher, but if a movement now under way in Seattle matures, that city will be the first to have a cat catcher. The suffering felines will be fed and treated until their wounds are healed, after which it is planned to find homes for them.

The proposed innovation should eliminate many of the midnight serenades that have annoyed local residents. With a home for each cat and said feline properly housed at night, the sleep-disturbing gatherings would be far less frequent.

The question will come up for decision at a meeting of the Queen City Cat Club's officials, when the special committee will make its report, and in all probability arrangements will be made for the establishment of a cat hospital.

CURRENT HOSPITAL LITERATURE

Woman's Hospital, Melbourne. Australian Med. Journal, September 20, XIII, 280.

The number of infants born in the obstetrical department during the past year was 1401, with a mortality of 12, a percentage that was one of the lowest among similar institutions in any part of the world.

Middlesex Hospital Club. Middlesex Hospital Journal, London, 1913, XVII, October.

The objects of the club are to continue the ties and associations between Middlesex men and their old school, and to maintain a fund out of which grants are made to old students who have fallen into adversity.

Hospital Superintendency as a Specialty. Med. Times, October, 1913, XII, 311.

This editorial calls attention to the fact that the demand for trained hospital executives exceeds the supply, and suggests that medical schools give graduate courses in hospital administration. Hospital superintendency offers a splendid field to the physician with executive ability.

Liverpool's Tribute to Miss Nightingale. British Journ. Nursing, London, 1913, LI, October 11.

Outside the Central Home of the Liverpool Queen Victoria District Nursing Association, on October 2d, a beautiful memorial tablet of Hoptonwood stone from the famous quarries in Derbyshire, with sculptured panel and surrounding molding of Pentelikon marble, was unveiled by Miss Rosalind Paget as a memorial to Miss Florence Nightingale. The sculptor is J. Allen.

The Bispebjærg Hospital. S. Bang. Ugeskr. f. Læger, Kjbenh., 1913, LXXV, No. 38.

This beautiful new state hospital for Denmark is situated on a hill near the town of Lyngby, on the island of Zealand. The hospital, as planned, will consist of twelve large pavilions, six of which are so far completed. The pavilions are ranged along a central street, six buildings being on each side. They are built on a rectangular plan, one of the small sides facing the street. At one end of the street is the administration building, fronting the whole group of buildings.

The Mothers' Hospital. British Jour. Nursing, London, 1913, LI, October 25.

Princess Louise, accompanied by the Duke of Argyle, went down to Clapton to open the Mothers' Hospital of the Salvation Army, the foundation of which was laid by her Royal Highness two years ago. Mrs. Bramwell Booth warmly thanked the Princess for her presence, presenting her a memorial key. The Princess said in reply, "With this key just presented to me I figuratively open the Mothers' Home. I visited the old one and know how greatly it was needed. I wish every blessing on this new hospital, and am sure that in Miss Booth's hands it will have the most marvelous success."

The Anatomo-Pathological Institute of the Ospedale Maggiore in Milan. E. Speroni. Ospedale Maggiore, Milano, 1913, I, No. 6.

The newly erected building contains two stories, is about 150 feet square, and has a small court in the center. It stands about 60 feet from the main building, with which it is connected by a covered way. Distinct features are a lecture room, a pathological laboratory, and a pathological museum.

An American Hospital Ward in London. Hospital, London, 1913, October 18.

The French, German, and Italian communities in London are each supporting a hospital known by the names of their respective nationalities. Americans who have done much for various British hospitals have now formed a committee of well known Anglo-Americans to endow a number of beds in the London Hospital—if possible, an entire ward—to be supported by Americans for Americans in that institution.

Women as Hospital Nurses (La donna nell' assistenza immediata ospitaliera). Guicciardi. Arch. di scienza ospitaliera, Bergamo, 1913, No. 3.

In Italian hospitals male nurses are almost exclusively employed for male patients. The author considers women much better adapted to nursing the sick than men. He recommends that the Italian hospitals adopt the practice of English, German, and Swiss hospitals, where, with very few exceptions, women alone are employed as hospital nurses.

Aluminum Vessels for Cooking Purposes. Therapeutic Gazette, September, 1913, XXXVII, 631.

Dr. John Glaister carried out experiments to determine whether foods cooked in aluminum vessels set free enough aluminum to affect the body. He found that the largest amount was freed in making marmalade from lemons and oranges, but even then it was so small that no harm would have been done if the entire 2½ ounces of preserves had been eaten at one time by one person. These results confirm those previously carried out by the *Lancet*.

More Liberal Financial Assistance for the Public Hospitals (Sanierung der öffentlichen Heilanstalten). E. Hofmokl. Wien. klin. Wchnschr., 1913, XXVI, No. 27.

In Vienna and in the other large cities of Austria the hospitals and insane asylums are overcrowded with patients. The necessary buildings cannot be provided for want of means. The nurses lack the proper education because the State does not provide for schools of instruction. The author considers it the duty of the State to furnish the necessary sums for the sustenance and proper management of the hospitals.

The Kaiser Wilhelm-Kinderheim in Ahlbeck. von Niedner. Deutsche med. Wchnschr., Leipsic and Berlin, 1913, XXXIX, No. 39.

This institution was founded by the emperor for the purpose of procuring for weak children of the poorest classes of the city of Berlin a sojourn of four weeks on the seashore. The home is situated southeast of Ahlbeck on the Baltic sea. It lies in a forest, and is separated from the shore by a belt of woods about fifty yards wide. The grounds comprise about fifteen acres. The buildings, six in number, are arranged around a rectangular park, in the center of which stands a round pavilion used as a playhouse. The pavilion, with the dormitories, have cov-

ered balconies. The home receives every month 150 children (all without pay). Until now the institution has been open from May 15th to October 15th, but plans have already been made to keep it open all the year.

Temperature and Humidity in Certain New York Hospitals. Alice L. Lake. Jour. Home Economics, 1913, V, 301.

Miss Lake has recorded the temperature and humidity in six New York hospitals. The temperature is frequently too high, especially in operating rooms and children's wards, and the humidity much too low. The control of temperature and humidity, however, seems to depend much more on the efficiency of the man in charge than on the system used. In two hospitals, one with window ventilation and the other with a plenum system, a uniform temperature was regularly maintained in spite of the difference in the systems.

Garden Cities for Consumptives—A Plea for a National Scheme. J. E. Esslemont. Hospital, London, 1913, LV, November 1.

The writer's object is to bring about eradication of tuberculosis. The segregation of infectious cases is to afford safety from infection, and enable patients to continue the kind of work of which they are capable. He advocates large colonies for consumptives on garden city lines. In the majority of cases of tuberculosis the tuberculous patient must live a suitable open-air life for years, conditions that sanatoriums and hospitals do not fulfill. The work in the colony could be done by the patients, regulated by medical officers and organized to make the colonies self-supporting.

The Berlin Children's Sanatorium at Borgsdorf (Die Berliner Kinderheilstätte zu Borgsdorf). C. Birnbaum. Med. Reform, Berlin, 1913, XXI, No. 14.

The sanitarium owes its existence to a legacy of the late Professor Neumann, the noted pediatrist. The sanitarium grounds comprise nine acres, half of which consist of woodland. The institution has room for 34 children, who are selected among the poor of Berlin. Only girls from four to eighteen and boys from four to eleven are admitted. The patients are mostly scrofulous and tuberculous children, but heart, renal, and nervous diseases are also represented. The treatment is principally physico-dietetic, sun-baths, open-air halls, good food. Gymnastics and massage are among the curative agencies employed.

Hospitals from the Patients' Point of View—Some Appreciations and a Suggestion. Hospital, London, 1913, October 18.

The writer refers to "hospital noises," none of which were serious enough for complaint, except three babies in the ward. She regards children among sick adults a great disadvantage in all hospitals. The lights hung over screens prevented disturbance of the next patient. The use of the bed-pan can be greatly improved if the supply is plentiful and the patients are encouraged in their use about the same hour. She suggests firm chaff pillows for supporting the knees of the convalescent and long bed stockings to reach over the knees. Light wraps for the shoulders are preferable to closing an open window.

Private Wards in Public Hospitals—The Passing of the Abuse of Medical Charity. Editorials in the Lancet-Clinic, 1913, CX, 423, 425.

Certain features of the policy of the new general hospital of Cincinnati are discussed. There are to be no private wards, as public opinion west of the Atlantic Coast seems to be unalterably opposed to using any part of a municipal hospital for private patients. There are to be a number of isolation rooms, to which patients may be removed when they become delirious or noisy, when death is impending, or when they show suspicious signs of dangerous infectious diseases. An attempt is to be made to overcome the abuse of medical charity by making a systematic investigation into the financial condition of patients and accepting only those who are really in need of help. As soon as the patient in the ward is convalescent sufficiently to return home, though still in need of medical or surgical attention, he is discharged. If able to pay, he is referred to his family physician; if not, he is allowed to return to the clinic for treatment.

Saratoga as a Health and Recreation Resort. Simon Baruch. Med. Times, October, 1913, XII, 291.

Dr. Baruch deplores the lack of interest in hydrotherapy in this country as compared with the very active interest shown in Germany. Very few of the springs have had scientific analyses of their waters made, and most of them cater to pleasure seekers rather than to health seekers. The physicians at health resorts do not make a specialty of their work as in Germany. Saratoga Springs courts examination. The analyses of its waters was made by disinterested chemists of the State Health Commissioner's Laboratory. The rehabilitation of Saratoga Springs for health purposes has been inaugurated by the State Reservation Commission, and should spare many of our people the necessity of crossing the ocean for treatment. Saratoga should select the diseases of tissue change, such as corpulence, rheumatism, gout, dyspepsia, gastrointestinal catarrh, and allied diseases. The radioactive properties of some of the springs fit them peculiarly for the bath treatment of rheumatism and gout.

The Royal Infirmary, Hull. British Jour. Nursing, London, 1913, LI, October 25.

The Royal Infirmary is an institution especially interesting to nurses, dating from 1784, when it had 60 to 70 beds. It now has 268, with a nursing staff of 66, exclusive of the private staff of 24 nurses. The operations last year numbered 1,550, an average of nearly 30 a week. The radium treatment has been carried out with much success, the attendance being nearly 6,000 at the electrical department. The wards of the infirmary open on spacious balconies, where patients are nursed day and night, dressings and other treatment being carried on in the open. A practical point worthy of notice is the provision for scrubbing mackintoshes. The board for this purpose adjoins a sink, thereby greatly simplifying and accelerating the cleaning process. Another item worthy of note is a cupboard in the wall of the lavatories in which specimens kept for inspection are so arranged that there is ample ventilation from the outside. The size and capacity of the infirmary is indicated in an illustration.

The Field Hospital in Peace and War. H. Sheridan Baketel. Med. Times, October, 1913, XII, 301.

There were two field hospitals at the encampment at Gettysburg, one being the regular field hospital from Fort D. A. Russell, Wyoming. The hospital had six wards, each with a capacity of 18 beds. In addition, pyramidal tents were raised, giving the hospital a total capacity of 412 beds. The wards were divided into service, as in a clinical hospital. In spite of the fact that the hospital and its equipment could be transported on eight army wagons, it had medical and surgical supplies equal to any 100-bed civil hospital. The operating room, a tent about 16x12, contained an acetylene generator and lighting

outfit, a sterilizer, and complete list of instruments and accessories, so that any major operation could easily be performed. The exactness with which the problem of outfitting the field hospital has been worked out is marvelous, and could profitably be studied by civilian hospital nurses and superintendents. The army medical officer, in addition to being a physician and surgeon, must be an administrator, a commander, and have a thorough knowledge of the work of the officer of the line.

The Box Station of the New Children's Clinic in Vienna (Die Boxstation der neuen Wiener Kinderklinik). C. von Pirquet. Verhandl. d. Versamml. d. Gesellsch. f. Kinderheilk. Deutsch. Naturf. u. Aerzte, 1912, Wiesbaden, 1913, 174-185.

Children's hospitals are always exposed to infectious diseases, which the newly admitted patients bring with them. To protect the hospital from infection, a large isolation station has been erected in connection with the new Vienna Children's Clinic. It consists of two rows of six isolation rooms (boxes), separated from each other by a hall and connected on the outer side by two corridors. All the walls and doors are of glass, with iron frames, so that students and parents can observe the patients. This isolation station has proved a success in the following cases: (1) for the reception and observation of patients with doubtful initial stages, (2) for the transfer from the hospital itself of children who are suspected of having an infectious disease, (3) for the reception of patients with a double infection, (4) for the reception or transfer of such simple infectious cases for which a larger ward is not provided (sporadic cases).

The Question of Hospital Libraries (Zur Frage der Krankenhausbücherei). I. Chomse. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 6.

The author holds that a modern hospital should have three separate libraries—a medical library for the physicians, a library for the nurses, and a library for the patients. A medical library is a great necessity, for there are frequently cases in a hospital where quick diagnosis and quick decision as to treatment are necessary. To apply for literature at a general medical library would in such cases be far too slow. Such a library should have an author as well as a subject card catalogue to render the literature easily accessible. The nurses' library should be kept separate from the library for patients. Many books valuable to nurses would in many cases be harmful to patients. A separate reading room is also desirable. Of highest importance is the library for the patients. The books should be well selected. A large portion should consist of light literature. An intelligent librarian with a knowledge of human character should be at the head of such a library.

The Duties of a Matron in a Mission Hospital in India. Miss A. G. Lillingston. British Jour. Nursing, London, 1913, LV, October 11.

The writer relates in pleasing style the duties of the matron and the necessity of her learning the language to lighten her responsibilities. Her duties and responsibilities are much the same as elsewhere. The conditions have greatly improved in the last ten years, parents today giving free consent to their children becoming probationers under the guardianship of the matron missionary. The nursing superintendents of India are excelling those of Great Britain, giving a conjoint examination, with a common standard of nursing education, and hastening toward the registration of European, Eurasian, and Indian nurses. The moral and missionary training of the nurses is heavy, but a splendid part of the work. The religious instruction becomes an important feature with these children of a race accustomed to thousands of years of heathenism in one scale and only a very few years of Christianity in the other. Thus the matron's life is a busy one, but very satisfactory to the writer, and one replete with great joys.

Hospital Reform in Great Britain in Medical Economics. Jour. Am. Med. Assn., November 1, 1913, IXI, 1651.

Discusses an article in a recent number of the *British Medical Journal* advocating a voluntary medical service which would be supported by the State, and which would furnish professional services at a fixed price per week. It is proposed to erect small hospitals in the outlying districts of the cities, as well as in country communities, placing them in open, healthy places, convenient to main lines of travel, allowing every physician to send patients to any available hospitals, requiring every patient to pay for his own care, and compensating every physician in proportion to his hospital attendance. The writer concludes that the public in the United States is not ready to accept State-aided medical service, but that the hospital situation is practically the same in the two countries. There are too few hospitals, the hospitals are too highly centralized, too much restricted to large cities, the distance which patients must be carried is in many cases too great, and the number of physicians having access to these hospitals is too small. The development of small hospitals in small towns and rural communities, and the substitution of a number of hospital units in various parts of the larger cities in place of a single institution of great size and cost are some of the most necessary reforms.

The Hunt Anesthetic Inhaler. Chas. S. Hunt. Internat. Jour. Surg., September 1913, 336.

Dr. Hunt presents an inhaler which offers two new features—the ability to use a gas-ether vapor sufuence in the same inhaler, and to change with very little inconvenience from the open to the closed method. It is composed of two parts—the face-piece and the neck-piece. The face-piece has a wire screen, dividing it into two chambers—a lower and an upper. There is a screw top which, when removed, allows the air space for the open method; there is also a small sliding cap to administer the ether by the closed method, and this part can be used for a chloroform mask and also for the vapor method. The neck-piece contains the inspiratory and expiratory valve, and completes the inhaler for the closed methods. The end cap, when pulled out, permits to-and-fro breathing. The advantages of the apparatus are its light weight and inexpensiveness. As there are few sliding parts to get out of order, it is suitable for hospitals. The inflated rubber face-piece is dispensed with by having a groove into which can be inserted rubber tubing or any soft material on the under surface of the mask. Using a pad made of gauze and cotton, with an opening for the nose and mouth, makes it fit any face tight enough for nitrous-oxid gas.

The Growth of Municipal Sanatoria—Their Administration, Work and Aims. Frederick J. C. Blackmore, Birmingham. The Hospital, London, September 20, 1913.

The author describes a new tuberculosis sanatorium in the outskirts of Birmingham, built in the usual modern way on the cubicle plan for out-of-door treatment. The administration, the author thinks, must be the greatest problem. The superintendent must be a medical man, with "the velvet glove on an iron hand" ideas of discipline. Of nursing, the writer says: "Efficient nursing is of great importance in sanatoria, and one must dispose of the idea

—all too prevalent—that any nursing will do. Good nursing is of as much importance in a sanatorium as in a general hospital. Nurses should be of some social standing, as, where their social position is only just above that of the domestic servant, it will be found that the discipline is lax, and that there is a tendency for them to fraternize too readily with the patients. The number of nurses required at a sanatorium depends entirely on the character of the buildings. Where these are on the cubicle system or consists largely of separate chalets, a larger number of nurses will be required than where the buildings are long pavilions, open to inspection from either end. The City Sanatorium at Birmingham is on the latter plan, and it is found that one nurse to every 8 beds is sufficient."

Hospital Construction (Krankenhausbau). F. Voggenberger. Heilanstalt, Leipsic, 1913, VIII, No. 13.

The hospital must, by its form and construction, itself be a means of curing disease. All the old hospitals were built on the corridor system, the greatest disadvantage of which was the lack of abundant light, now considered a most important curative agent. The pavilion system was first introduced in England. This system, which permits only a limited number of patients in one room, made it possible to supply an abundance of sunlight and fresh air. During the American civil war and the later European wars it was noticed that the patients in the open barrack hospitals fared far better than those in other hospitals, and that a supply of abundant fresh air is a most important curative means. The modern hospital is a combination of the corridor and pavilion systems, but plenty of sunlight and fresh air are the chief considerations in the construction of a hospital. There is also a tendency to make the sick rooms smaller. It is true the construction costs are now greater. While in former times the costs were from $800 to $1,000 per bed, they are now $2,500 to $4,000. In modern hospital construction the architect must also apply his artistic talent. Attractive colors, agreeable forms, etc., should not be overlooked, for beautiful surroundings are of no mean value in the treatment of disease. The modern hospital is, therefore, the combined creation of the architect and of the physician.

The Fight Against Rickets as a Requirement in the Public Care of Cripples. L. Rosenfeld. Ztschr. f. Krüppelfürsorge, Leipzig und Hamburg, 1913, VI, 199-213.

A strong plea for the early care of rickets in children to prevent future cripples and at a small cost to the public to avoid expensive and often unsatisfactory treatment later in life. Based on the work of the Nuremburg Society for the care of cripples, the author summarizes:

1. Rickets is the most frequent basic cause of crippling, probably in one-third of all cases. More cripples are thus made than from tuberculosis of the bones and joints.

2. Early treatment of rickets should prevent 70 percent of these cases.

3. The cost of this treatment to the public should not be greater than 13 marks per patient per year.

4. Prophylaxis of crippled conditions following rickets is financially best accomplished by outdoor relief (ambulatoria). Where this does not exist, it is well worth while to establish it in connection with institutions for cripples if only to combat rickets.

5. Close cooperation between homes for cripples and institutions for the care of infants and children greatly facilitates the discovery of the crippled children of the community.

6. It should be specially required of outdoor relief institutions for cripples that great attention be paid to the treatment of rickets.

The London Hospital. Charles E. Barnett. Jour. Indiana Med. Assn., Ft. Wayne, 1913, VI, October 15.

To the visiting genitourinary surgeon and gynecologist the best three hospitals in London are the London, St. Peter, and Charing Cross. The London Hospital alone gives ample clinical material. Ocupying a space surrounded by ten squares, it has a record of over 237,000 patients' care the past year, requiring a large training school (over seven hundred nurses), besides subsidiary help. The plant is practically self-sustaining so far as concerns the manufacture of its own drugs, surgical dressings, and surgical, medical, and electrical appliances. The beds have large roller caster wheels, enabling the patient to be transferred to inner court open-air sun porch. Each bed has an individual locker and eating tray attachment, and the patient is enabled to manipulate it without rising from bed. A curtain does away with the unsanitary screens. The food is served in sealed containers for each ward, and, of course, is fresh, hot, and uncontaminated. Food or some kind of tea is served about every fifteen minutes, so that patients are served regularly six times a day with some variety. The Finsen ray for lepers is used on a large scale, and the patient is practically exposed to the ray the entire day. A daily exposure of twelve to eighteen months gives wonderful results. Each operating suite of rooms is independent of others, and, considering the seven suites, some impression is gained of the work done. The writer refers to Dr. Kidd, genitourinary surgeon, the successor to Dr. Harry Fenwich, retired, as a masterly operator, having good sense and courage to use American technic, and honesty to admit it is American.

Some Problems of the Institution Library Organizer in the State Hospitals. Edith Kathleen Jones, Librarian, McLean Hospital, Waverly, Mass.

In her paper before the League of Library Commissioners, Kaaterskill, N. Y., the author speaks of problems to be met in arranging libraries. Unless appointed by the state Board of Control or state Board of Insanity, the antagonism from superintendents must be overcome. There must be selected such material as will prove entertaining rather than educational to the patients, nurses, and hospital staff. It must be considered an adjunct to the therapeutic service of a hospital—a means of contributing pleasuse or at least forgetfulness of self, to an afflicted class, an employment for hours otherwise passed in idleness and dejection. To attain such an object, the light popular fiction takes preference over standard works and classics. Books in a hospital are for recreation, not for instruction, and should consist of fiction, picture books, travel, biography, light popular science, and outdoor books—those that are wholesome, and not morbid, gruesome, or depressing; good detective stories, and tales of adventure, however thrilling, if not horrible, and that do not make vice attractive. Illustrated books and those with pictures are often invaluable. The newest fiction is often called for and read, yet the old favorites remain much in demand. Light and simple stories should be provided for patients unable to make their own selection. Editions in large, clear type are to be recommended for the elderly and those with failing eyesight. The writer does not recommend complete sets of works, with the exception of Shakespeare, Scott, Dickens, and possibly George Elliott. In closing her interesting paper, she

dwells on the housing of hospital libraries. She regards a separate building the ideal arrangement. In all events, a library is to be made bright and attractive, with the contents catalogued and made accessible for the readers' convenience and accommodation. The interest and cooperation of the nurses becomes an important factor in the hospital library.

Temperature and Humidity in Hospitals. Editorial in Jour. Am. Med. Assn., 1913, LXI, 1541.

The editor claims we overlook the management while dwelling on the plumbing, heating, etc., in the construction of public buildings, and that the human brain is responsible for the working of the varied arrangements. The human individual is the only satisfactory automaton, and the control of temperature more a question of management than the system employed. From Miss Lake's article in the Journal on Home Economics (1913, V, 301) the statistics she gathered in six New York hospitals prove the above statement to be true. In one hospital with window ventilation and another with the plenum system a uniform temperature is maintained, despite the difference. One is consistently overheated, 75° and 80° F. being undesirable, and a temperature between 70° and 80° in the children's wards is debatable. It is a question if a day record of 76° F. should be allowed to cool to 57° at night. As a commentary on the placing and management of the thermostats, an operating room with a temperature of 88° F. registered 98° on the thermostat that was placed on a wall where there were steam pipes of a sterilizer. Low humidity is a rule in operating rooms. Of seventy-five records by Miss Lake, sixty-seven are between 20 and 45 percent relative humidity, a condition due to high temperatures, for outside humidity reaches far higher figures. The subjection of patients in wards or operating rooms to dry heat may be debatable. The provision of artificial humidification is the only suitable way to alter the situation. Provisions of temperature and humidity appear more dependent on the inefficiency of the man in charge than the system installed.

Report on Necessary Improvements in the Management of Infant Wards (Rapport sur les ameliorations a apporter au fonctionnement des créches d'hopital). H. Triboulet. Bull. Soc. de Pédiat., Paris, 1913, special number, 281-336.

In a special bulletin of the Pediatric Society of Paris, Triboulet reports on the necessary improvements to be made in the management of the infant wards of the children's hospitals of Paris, with a view to prevent the large annual loss of life due to infectious diseases. At the asylum of Medan for convalescent children and weaklings there is an annual loss of life amounting to 24 percent, of which 19 percent is from infectious diseases, 11½ percent from measles alone. This is imported from the Paris hospitals and it spreads among the convalescents in the asylum. He estimates for Paris the deaths of 500 children annually due to infections acquired in the hospitals, and therefore preventable by a more perfect system. The recommendations are that the infant wards, being indispensable, must receive sick nurslings, many affected with infectious diseases, but that on no account should normal children, subnormals, or dystrophics be taken. For these, other establishments must be used. In other words, puericulture and the treatment of sick children must be carefully separated. The infant ward should be under a rigorous asepsis, and cubicles furnished, with the necessary articles for the child's care, where each infant can be completely isolated, are necessary to this end. Until this ideal can be attained by existing hospitals, everything possible in the way of scrubbing, ventilation, open-air treatment, kitchen improvement, sterilization, and increase in nursing force must be attempted. The wards should be disincumbered, whenever possible, of cases suitable for the special services, such as diseases of the eye and ear, skin diseases, etc. At the Medan asylum the lazaret for pauper infants and the infirmary should each have a small isolation hospital, with individual cubicles, to prevent the loss of life now caused by infections coming from the infants' wards of the Paris institutions. Convalescent hospitals for infants (créches de convalescence) should be established in greater number. A valuable discussion by MM. Marfan, Weill-Halle, Nobécourt, Méry, and others follows the full text of Triboulet's report.

Special Hospital Prison at Scheveningen (De Bijzondere Strafgevangenis te Scheveningen). J. W. Deknatel. Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam, July 19, 153-214.

This prison has been occupied since November 1, 1911, and is used for convicts who manifest physical disturbances and for psychopathic convicts. The movement to establish such an institution was started in 1890. The majority report of the committee was that the harmful and dangerous persons and the immoral and sexual perverts should be taken out of the insane hospitals on account of their disorganizing influence and be brought to a special institution, and that the undesirable ones from prisons could also be brought here. The minority report was that the criminal insane and the insane criminal should be placed in a special department of the insane hospitals.

This prison has three departments. One is a psychical ward for 24 patients and an ordinary ward for 25 tuberculars; the second is for men over 60 years, and the third is for 72 psychopathics to serve their sentence. The report for the year 1912 shows that of the 90 patients 12 were sent to the State Insane Hospital, and the balance remained in the department for psychopathics. The condition of the patients was very satisfactory, only two slight attempts at suicide having occurred, and no force or hyosine or morphia were used. Instances of attacking and destroying were few. The conditions, as compared with the conditions in the State Hospital, were much more favorable. The number of dangerous patients, with appropriate treatment, is small, as is also the number of simulations.

The speedy recovery of the prison psychosis, the detection of genuine psychosis and simulation, maintaining an equilibrium of the psychic disturbances of the inmates during their imprisonment, and preparing them for their future usefulness, are the objects of this institution. In many countries of Europe legislative bills are being introduced which will change the local status and the care of psychopathics. With the exception of England, all these bills are based on the same principle or idea, the result of the frequent discussions in international criminalist association meetings. The bill introduced in the legislative body of the Netherlands in 1911 is similar to the German, Swiss, and Austrian bills.

England followed another course. In May, 1912, a bill was introduced which must be a revelation to everyone, and which seeks to solve the problem in a very independent manner. If we make a general survey of the principal clauses of the bills introduced on the continent, it will be seen that the personal responsibility for the penal law remains as it was, if the imputation is not ex-

cluded. In the formulation a distinction is made between the biological and the psychological method. With the first a circumscription is meant whereby a few biological characteristics are given which excludes the imputation. A typical example is the old and at the same time the newest formulation of the Swiss bill: "Wer zur Zeit der Tat geisteskrank oder blodsinnig oder in seinem Bewustsein schwer gestort war, is nicht strafbar." The well-known difficulties of this formulation caused the bill of 1903, which follows the psychological method, to be introduced: "Wer zur Zeit der Tat usserstande war vernunftengemasz zu handeln, wer insbesondere zur Zeit der Tat in seiner geistigen Tätigkeit oder in seinem Bewustsein in hohem Grade gestort war, ist nicht strafbar. War die Fähigkeit des Tates vernunftsgemasz zu handeln zut Zeit der Tat vermindert, war insbesondere die geistige Gesundheit oder das Bewustsein des Tates wesentlich beeintrachtigt, so mildert der Rechter die Strafe nach seinem Ermessen." Here we notice that the idea of "vernunftsgemasz handeln" has been added, and even in that sense it can be absent or can be diminished.

The formulation of the well-known criminologist, Professor Aschaffenburg, is even more psychological. Austria and Servia have followed the conception of Aschaffenburg, and recognize not only an abolishment of the conception of an act and a possibility to determine the will in accordance with it, but also a limitation of the will.

The German conception is and remains based on the principle of the free will, and is interpreted by the determinists as being in conformity with the temper, character, and personality. There are circumstances when the will decrees are the result of intoxication, and then the free will does not exist. The "freiwillensbestimmung" is a conception which meets with much opposition, and is very difficult to apply in psychopathological cases.

The Netherland bill, in article 37, provides: "He is not punishable who was suffering with psychic disturbance or psychical nondevelopment, and is not accountable for the act." The expression "psychic disturbance and nondevelopment" is chosen in order to show that in every case there must be a certain degree of disturbance or nondevelopment, and distinction must be made between punishable guilt and moral guilt. The punishable guilt may exist when the intention (a psychological character) is present, while the state of the insanity may exclude the imputation (an ethical character). The Netherland psychopathic bill rests on the basis that the punishable guilt must exist if the judicial judge is to act. This conception is a combination of the biological and the psychological characteristics.

It is the function of the medical man to pass on all questions bearing on cases of insanity in so far as medical science can furnish data. He is to determine whether the accused is to be committed to an insane hospital, whether he can support himself in the ordinary way, whether he is able to meet all difficulties, whether he is responsible for his acts, whether punishment should be meted out, and whether appropriate treatment will be of any benefit.

Are there grounds besides insanity which a judge should consider? The English "Mental Deficiency Bill" gives an answer. Article 17 provides that this law is applicable to persons who are "defectives," to (a) those that are wandering, neglected, and cruelly treated; (b) those that are accused of an offense, inmates of different institutions, as reform schools, inebriate hospitals; (c) those that are drunkards according to the drunkards laws of 1879 and 1900; (d) those discharged as backward and epileptic children; (e) those that will not be desirable persons to procreate; (f) and those "in whose cases such other circumstances exist as may be specified in any order made by the secretary of state as being circumstances which make it desirable that they should be subject to be dealt with under this act."

Could we expect this of England, the bulwark of personal liberty? Here we do not find any biological or psychological, but plain economical, characteristics. Who are these "defectives"? Article 17, part 2, divides them into five groups:

1. Idiots—those persons in whom there is such a low degree of development of the psychic powers, from birth, that they are not able to protect themselves against ordinary physical dangers.

2. Imbeciles—those persons who can protect themselves against physical dangers, but who cannot support themselves on account of mental defect existing from birth or from an early age.

3. Weak-minded—those persons who can support themselves under favorable circumstances, but on account of poor development of the psychic powers, existing from birth or from an early age, are not able, first, to compete with normal persons, and, second, to handle themselves and their affairs with prudence.

4. Moral imbeciles—those persons who have shown from their early age some mental defect, accompanied by a vicious tendency, upon whom no punishment has any effect.

5. Psychic invalids—those persons who, through age, diminishing psychic powers, are not able to take care of themselves.

England has in the last few years surprised us with her courage in law-making—something American about it—and it has been observed already that the American penitentiary ideas will come to us by the way of England. Shall we follow England's dare? The State's commission of 1902 favored a general psychopathic law, in which not only the criminal insane are dealt with, but all. When our psychopathic law is changed or reformed into a penitentiary-psychopathic, and with it we have a civic-psychopathic law, then the reformation will have taken place. The context of the civic law must be that of the "Mental Deficiency Bill."

New Jewish Hospital Dedicated.

The new Jewish hospital built by the Independent Order of the B'Nai B'rith at Hot Springs, Ark., was recently dedicated by Governor Hays and a large gathering of distinguished visitors. The hospital, to be called the Leo N. Levi Memorial Hospital, contains 60 beds, and will be wholly free.

The building is a three-story fire-proof structure of stone, steel, and brick construction, and is modern throughout. The United States Government has something to say about everything that is done at Hot Springs, and the plans for the hospital were approved by the Government. There are five wards in the building, each of which contains 12 beds.

Cincinnati Will Write Some Notes.

The campaign of the Visiting Nurses' Association of Cincinnati to sell a ton of lead pencils is waxing warm. While there is no street or office-to-office soliciting, every part of the city is being systematically covered by a large number of committees who are working through the various organizations, societies, trades, and professions.

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Women Physicians Want to Compete in Examinations for Interns.

The reluctance of hospitals to give the woman graduate of a medical school the essential experience gained in its wards is regarded as a sex discrimination which is hopelessly old-fashioned. At the International Medical Congress attention was called to the fact that the number of women graduating from medical schools is decreasing instead of increasing in spite of the openings in sociological medical work, the medical missionary fields, school hygiene, and the other new avenues in the profession. In an editorial in the New York *Medical Journal* attention is called to the fact that one of the chief contributing causes for the diminishing number of women physicians is that the woman graduate is barred from medical practice, except in the cases of women's hospitals. As long as women are deprived of one-half their medical experience, and therefore of a corresponding degree of efficiency, the stimulus to taking the long and difficult course in medicine will not be sufficient to draw great numbers to the field, no matter what are the inducements offered in the way of positions for general research and applied hygiene. Philadelphia, which is the world's seat of medical instruction for women, and which boasts the first woman's medical college, is likely to be the scene of a revolt against such conditions. Except for the Garretson and the Samaritan hospitals, conducted in connection with Temple University, where coeducation prevails in the medical school, no hospital in the city other than those conducted by women gives women a chance to gain experience as interns. At Blackley several years ago women physicians were admitted and did effective work on the hospital staff, but recently the department of health withdrew the opportunity for them to pass competitive examinations, the reason being that there were not accommodations for them at the institution.—Philadelphia North American.

FOREIGN CORRESPONDENCE

BERLIN LETTER.

Berlin's Recent Awakening—Scientific Methods in Everything Explain Newer Hospital Progress—Increased Costs Are a Serious Problem for the Future.

Berlin, November 10, 1913.

This hospital letter-writing stunt is good fun for the man who writes the letters. It makes him see things more clearly and more carefully himself than he might otherwise, and, what is perhaps more directly beneficial, it keeps him in the house for an evening once in a while; for it is strange how good the cafès and restaurants are in the cities where the hospitals are worth while, and after a day spent with the more or less depressing features that always accompany hospital investigation there is always a desire to do a little comparative study of the cafès. The value of these letters to the reader can be only suggestive. One cannot go into detail sufficiently to make them of any direct practical importance. But if they can serve only the purpose of keeping in mind the constant idea that elsewhere people are doing things the best way they know how, it will make us strive to keep up the pace and thereby be of some little good.

We feel so new in America that when we come over here we are apt to look at certain institutions as always having existed. That is a mistake. Berlin, as it stands today, is as new a city as Chicago, and in many respects much more modern. If we look into the history of German hospitals, we will find that the growth has been a remarkably rapid one.

Going back only as far as the year 1200 in Germany, we find that notice was given out broadcast that, as sickness was a manifestation of divine wrath, it would be well for the afflicted *to burn themselves or have their friends do it for them.* The first care of the sick in Germany was undertaken by the religious orders. The first hospitals owed their inspiration to the returning crusaders, and were patterned after that of the Knights of St. John in Jerusalem.

At the end of the thirteenth century there was to be found in nearly every large town of Germany a hospital of the Holy Spirit. These institutions were due to one Guido, who founded an order with the first hospital at Montpellier in France. Many of these religious institutions were later taken over by the municipalities, who began to realize their duties toward the sick, and who extended and improved the service as time went on. Moreover, infectious hospitals were established outside the walls of the towns, and these were used at first for lepers. With the division of medical science, the State began to take an interest in the care of the sick and infirm, and so general hospitals, especially hospitals for the insane, lying in, and, in fact, all kinds of institutions which society now demanded, came to be established.

In 1796 a Berlin surgeon named Forney stated that Germany was behind all other countries in respect to her public institutions for the sick, and that reform was urgently needed. At that time there were only four hospitals in Berlin,[1] and none of them belonged to the municipality. In fact, up to 1860 Berlin had only private and State institutions. Then all of a sudden Berlin seemed to realize how bad things were and went at matters with a rush. In 1881-82 about $350,000 was spent. The first real municipal hospital was Friedrichshain, erected in 1874. This hospital was started by a gift of Fasquel, a baker, of $40,000. In the comparatively short time since there has sprung up the most wonderful municipal hospital group possessed by any city in the world.

In order to understand this remarkable municipal hospital development in Berlin, it is necessary to go a little beyond the direct scope of our subject for a moment and to seek the factor that has made Berlin the wonderful world-famous municipality that it is; for Berlin, situated as it is in the midst of a flat, dreary plain, surrounded by sand and pine trees, is a wonder. As I just said, it is a "mind-the-paint" city yet. The old and venerable cities like Cologne and Frankfort, and Munich and Hanover, rub their eyes and wonder how this new and lusty infant has outstripped them all. Everybody says Berlin can never be a great international center like Paris, or acquire the dignity or importance that ages have given to London. It is true that it does not possess the care-free lightheartedness of the former, nor the stolid lack of a sense of humor of the latter, but it keeps right on crawling up on both of these great cities, despite their disparaging remarks.

What is the secret, then, of this wonderful growth which is going on in Berlin, despite all the natural disadvantages with which this city has to contend? Read any book on government today and it will tell you. Berlin is the first city in the world in the development of municipal science. It has recognized the fact that it must be the link between the State and the individual. It requires highly trained specialists for its officials and pays them for their services. A bricklayer or a broker would stand just as good a chance getting a place on the faculty of the University of Berlin, or being called in to the Charitè Hospital to remove an inflamed appendix, as he would of getting any important position in the Berlin municipal government.

Naturally, in such a scientifically governed community one of the first considerations would be the proper care of the sick poor—or rather, I should say, care of the sick, for one of the first things that has been done is to eliminate the word "poor." There are no sick poor in Berlin in the sense we use the term. No person is treated free of charge in a municipal hospital. If he cannot himself pay, his club or approved society pays for him, for social insurance is a part of the German Government. But even if, for any reason, that fails, then the communal authorities must pay the hospital bill. One may say this amounts to the same thing as being a charity patient, but the effect on the patient is felt by the fact that he is not in a "pauper institution," as he would be in England, for instance. Moreover, only the officials know how the different patients stand financially. In the eyes of each other they are all equal, whether they are paying out of their own pocket or out of somebody else's pocket. All are supplied with exactly the same kind of clothes, which they must wear in the hospital, both for day and night use, no matter what their outside social status may be.

[1] Charitè, 1710; Asylum, 1726; Jews' Hospital, 1703; French Protestant, 1699.

Social insurance is the lever or the leaven, then, by which this condition has been brought about, because this has done away with pauper institutions, which no self-respecting middle-class workingman would enter. Moreover, it has done away to a great extent with charitable religious houses, which were not only bad in their care and treatment of the sick, but also bore the stigma of being "pauper" hospitals.

So it is, then, that in the last twenty-five years practically this modern German hospital system has been built up. In less than three decades Germany has changed from a pernicious system—whose institutions were nearly all military or naval, in that they were managed by the State and supported by the Department of War, or were loose charitable bodies supported by voluntary contributions—to the great municipal hospitals we see today.

The municipal authorities, then, in the last twenty-five years have provided the citizens of Berlin with a place to go when they are sick, just as a theater or an opera house is provided by the Government to amuse people when they are well. You buy your bed in the hospital just as you buy your ticket to Lohengrin. We are coming to the point in America where we begin to clamor for municipal ownership of public utilities, for gas and electric lights and street cars, and what not, but so far we are content to handle such of our sick poor as we must in some municipal fashion—treating them, mind you, as paupers—while those who can afford it buy their hospital beds in a "private" institution.

I am not saying that these private hospitals are not all right. They are a good thing, of course, and we don't want to do away with them any more than we would want to do away with taxicabs just because the city owned the street car lines. But the point I wish to make is this—don't forget that, even though we have taxicabs, a great many people have to ride in the street cars.

Now, having said all these nice things about Berlin's hospitals, let us be mean for a moment and see what we can find to say against them. Sir Henry Burdett, who has made a most careful study of these German institutions, brings out two facts that are worthy of consideration. First of all, their great cost is to be considered. Hospitals today are far from the simple buildings they once were. Modern construction and equipment bring the cost of these new municipal hospitals up to an average of more than $2,500 per bed. The cost of maintenance is estimated as 100 percent greater than it was twenty years ago. For all of these things the patient and the taxpayer has to pay. This matter of cost is indeed a serious problem, and already plans are in the air for establishing by some means permanent endowment funds for these institutions.

The second objection advanced by the above writer, while it might be a serious one for us or for England, is one that cuts little figure with the Germans themselves, and that is the loss of individuality and severe discipline to which patients are subjected in the German hospitals. Under the ultra-scientific methods of German treatment the patient ceases to be an individual, but is merely a human mechanism that is out of order and that must be put right. No one can possess greater power than a German professor. From his first assistant down to the lowest "diener" his staff are subservient slaves, eager to do his bidding. The patient would stand no more chance to protest against his will than would a heretic on the rack sentenced by the Inquisition. Every American physician who has attended surgical clinics in Berlin has seen patients operated on without a suggestion of an anesthetic who would be given a general anesthesia for the same thing in one of our hospitals. But the German expects this sort of treatment, and the American physician's attitude towards it usually is, "I wish we had such bully good clinical material at home."

R. L. Thompson, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

HOSPITAL BUREAU'S ANNUAL REPORT.

Interesting Experiment In Purchasing Shown To Be Successful—Twenty-Eight Hospitals Now Members.

The Hospital Bureau of Standards and Supplies of New York has just issued its 1913 annual report. There are now twenty-eight hospitals in the bureau, extending along the Atlantic coast, and including the Massachusetts General hospital, Boston, and Johns Hopkins hospital, Baltimore.

The bureau was organized in 1909, with a purchasing agreement covering a few articles that it was thought might be bought better by a large group of institutions than by each one separately. Now the agreement covers sixty-five articles, including chemicals, medical and surgical supplies, kitchen utensils, china and glass ware, soaps, housekeeping utensils (such as mops and wringers, linen and cotton goods), foods (such as meats, poultry, teas, coffees, preserves, and soups), rubber goods, alcohols, whiskeys, and many miscellaneous articles.

The bureau announces in its report the entire success of the community plan of purchase, and points to the fact that the number of institutions in the membership has grown from fourteen to twenty-eight in four years.

The bureau publishes its "organization agreement" in the annual report for the benefit of institutions which might wish to join, and also its bylaws for the benefit of other localities which might think of copying the plan. The report includes also a financial statement of the year's business, which makes a most interesting group of facts.

"Public Welfare" Workers.

The people of Chicago, under the leadership of President A. A. McCormick, of the Board of County Commissioners, have decided to drop the term "Social Service" as applied to those who are engaged in work for the betterment of the poor and sick, and to use instead the term "public welfare."

The new term really had its christening on the evening of November 22 at a great dinner at the Sherman House, in which several hundred "public welfare" workers participated. Dr. Richard C. Cabot, of Boston, one of the guests of the occasion, eulogized the new phrase as expressing more than any other term he had heard used in the same connection.

President McCormick deprecated any reference to his own part, either in the discovery of the new term or in the work to which it applied. He said that it had been his experience that almost every new idea that was concerned in the welfare of the people came from some woman, and that the coinage of "public welfare," as expressive of what we have been calling social service, was a woman's work.

Some foolish "mere man" in the back part of the dining room muttered, half aloud, when the president made that statement, that "the women can vote now." Of course Mr. McCormick was thinking of nothing of the sort, because he has been lamenting for months that, while the women were given the ballot by the last Legislature for many public elective offices, the office of county commissioner was not one of these.

NEW EQUIPMENT

Mesothorium and Its Application.

The nonoperative treatment of carcinoma, myoma, and other diseases of the uterus by means of mesothorium, as practiced in the University Clinical Hospital in Freiburg, rests on the principle of the exclusive use of the γ rays. The application of this principle, therefore, demands the complete absorption of the α and β rays by means of filters in order that the pure γ rays alone may be allowed to produce their effect. The γ rays, however, constitute only the smallest fraction—scarcely 1 percent—of the total ray energy of mesothorium. Hence the assemblage of sufficiently large numbers of these rays is possible only through the use of very large quantities of mesothorium—sometimes as much as 800 milligrams. But the application of such large doses makes it obviously necessary to have filters of corresponding efficiency and reliability.

The thicker the consistency of a metal, the greater is its power of light absorption. The choice of material for the filters, therefore, lies between lead, silver, gold, and platinum. Lead is frequently used on account of its cheapness. Silver, however, though dearer, is largely preferred to lead on account of the somewhat strong secondary rays to which the latter gives rise. Gold is used only where it is necessary to employ filters of minimal thickness and great power of ray absorption—e. g., in the cervix. The density ratio of gold to lead is as 0.8:2, that of silver to lead as 1.5:2. A silver filter of 1.5 milligrams and a gold filter of 0.8 milligrams wall thickness produce, therefore, the same effect as a lead filter of 2 milligrams wall thickness. On account of its smaller diameter, the gold filter can be introduced more easily into the cervix, and is, in addition, more comfortable to the patient.

In the preparation of the various forms of filter, special attention has been paid to the desirability of approaching the object of treatment as closely as possible. In addition, therefore, to filters intended for external (abdominal) use, others of different patterns have been constructed for internal treatment from the following centers: vagina, uterus, rectum, esophagus, and larynx. Two kinds of filter—e. g., intrauterine and abdominal—can of course be employed simultaneously in order to make full use of the advantages gained by "short range" and "cross" fire.

If, however, cross fire from two contiguous capsules occurs on the skin surface, the consequent ray concentration may cause skin injuries. Hence, in the construction of the double capsule holders and the spring fasteners, special care has been taken to prevent any possibility of such exposure of the skin surface to the rays of contiguous capsules. Further, to secure protection against the secondary rays, which can also very easily cause skin injuries, the filters intended for external use are imbedded in thick muslin wrappings, while those for internal use are supplied with rubber coverings.

Such instruments embody in their construction all the precautionary measures necessary for the prevention of the dangers attendant on the therapeutical use of mesothorium.

The following illustrations show some of the instruments mostly in use for treatment of cancer of the uterus, larynx, and esophagus, as well as for the external application of mesothorium rays:

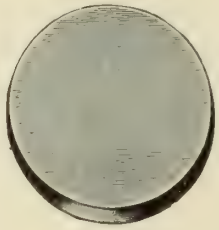

Fig. 1.

Fig. 2.

Fig. 3.

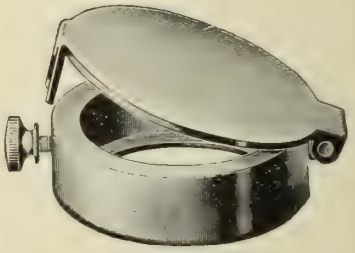

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 8.

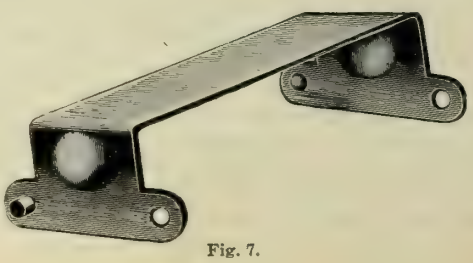

Fig. 7.

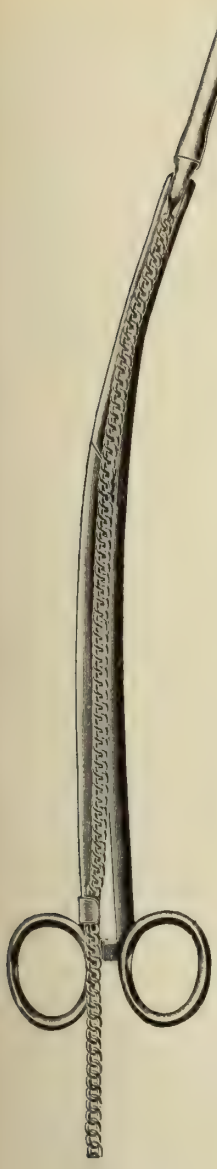

Fig. 9.

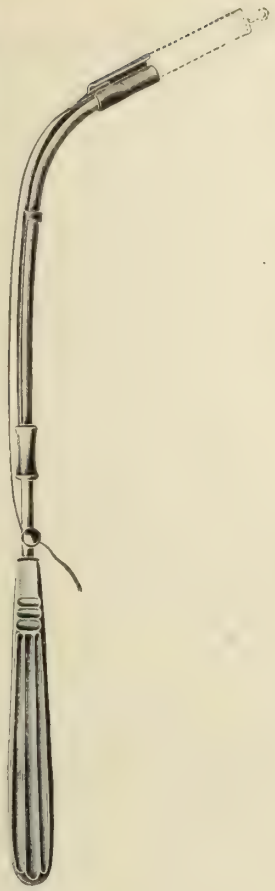

Fig. 10.

Fig. 12.

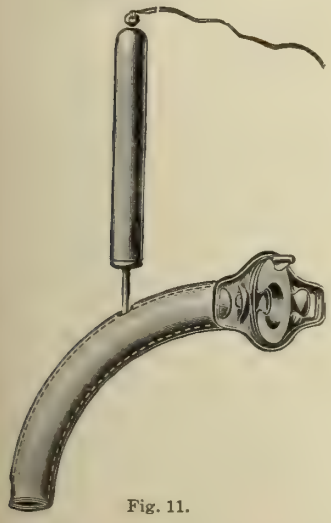

Fig. 11.

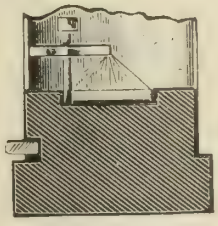

Fig. 13.

Fig. 1, flat capsule made of silver or platinum. Figs. 2, 3, ray filters made of lead from 1 to 3 millimeters in thickness. Fig. 4, holder for flat capsule and ray filters; two or more of these holders may be joined together, sufficiently far apart to avoid the concentration of the rays on the skin surface. Fig. 5, cylindrical capsule, so-called Dominici tube, made of silver; this capsule is employed in connection with the tracheal, laryngeal, and esophageal applicators. Fig. 6, cylindrical capsule for external application. Fig. 7, holder for external capsules; two or more of these may be joined together. Fig. 8, intrauterine or vaginal capsule; holders made of lead or silver, with lead filters. Fig. 9, forceps for introducing capsule holders in the uterus. Figs. 10, 11, instruments for intralaryngeal ray treatment of cancer of the throat after preliminary tracheotomy; the filter is placed in the larynx from above by the introducer; the ball of the screw top clips into the hole of the outer tube of the canula, and is then fixed there by the slot on the back of the inner tubes; the filter rests thus quite securely, being fastened below to the tracheal canula and above to the silk thread which is passed through the mouth and fastened with adhesive straps to the cheek of the patient. Fig. 12, esophageal capsule case in lead, with silk thread and 1 millimeter filter. Fig. 13, Crooks spinthariscope, an instrument for the purpose of demonstrating bombardment of the radium alpha rays, an infinitesimal particle of radium salt ejecting atoms of helium, which particle, although actually quite invisible, expels myriads of atoms, together with other emanations, every second, and this one microscopic speck is supposed to be capable of maintaining the supply for about two thousand years.

VINCENZ MUELLER.

The Dwight Operating Table.

This table, designed especially for operations on the eye, ear, nose, and throat, in its normal position stands 33½ inches high, 70 inches long, and 20 inches wide. The back section is cut out on the two sides as shown, permitting

Fig. 1. Dwight operating table—normal position.

the surgeon to stand directly in front of the surgical field. The top of the table can be raised by means of two worm screws and gears, one at each end of frame, operated by means of a spoked wheel in the center of the shaft between

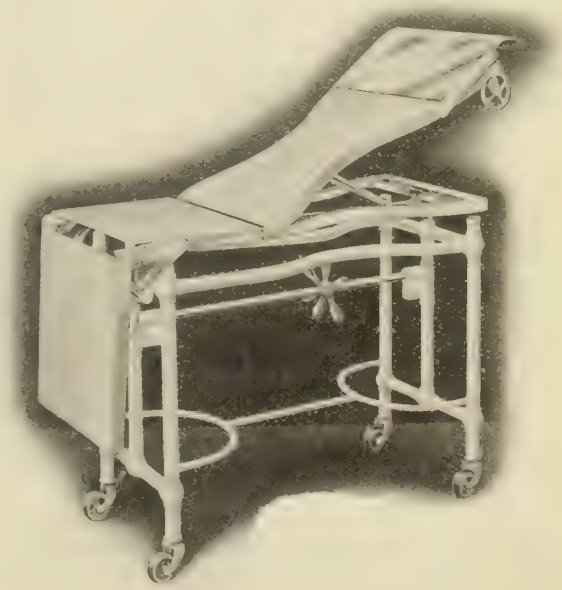

Fig. 2. Dwight operating table—back section elevated.

the gears, to a height of 10 inches above the normal height of table.

The head-rest extends across the entire width of the back section, and can be raised or lowered by means of hand wheel in connection with quick-working right-and-left screw with traveling nuts. The edge of the head-piece is shaped to conform to the curves of the head and neck.

The back section of the table is adaptable from the horizontal plane to an angle of forty-five degrees. The foot section of the table can be dropped to place the patient in a sitting position, if desired.

The table is mounted on large three-inch rubber tired casters, two of which are supplied with brakes, which, when used, make the table rigid and immovable.

The finish of the head-rest is brass nickel-plated, and the other parts of the table are white enamel.

CORYDON G. DWIGHT, M. D.,
Madison, Wis.

CONSTITUTIONALITY OF LUNACY LAWS.

Mentally Unbalanced Entitled to Trial By "Jury Of Their Peers."

The constitutionality of the law passed by the Thirty-third Legislature of Texas, providing for adjudication of lunacy by a county judge upon a report of a commission of six commissioners appointed by the judge, is questioned in proceedings for habeas corpus filed in the Court of Criminal Appeals at Austin.

This law, commonly known as the lunacy commission law, amends acts of the Legislature of 1911, and according to the contentions advanced by attorneys in the habeas corpus case of James Singleton, of Harris county, it denies a person the right of trial for his life or liberty by a jury; instead, provides that the trials of persons on lunacy charges be held before a commission of six, consisting of physicians, providing the proceedings are held in counties having a population of 50,000. This, the attorneys contend, denies him his constitutional right of trial by a jury of his peers.

If this law is held to be unconstitutional, lawmakers in many states will have to set about revising the present methods by which the mentally unbalanced may be tested for admission to hospitals for the insane. It may be hoped that this is the opening wedge leading to a more humane method of treating perhaps the most unfortunate class of sick. Public exhibition of these people in open court, to be passed upon, often by laymen, is a disgrace to our vaunted civilization.

Fitting Memorial From Children.

A movement was launched at the celebration of the sixty-third anniversary of the birth of Robert Louis Stevenson, in San Francisco on November 13, to endow a room in memory of the famous writer at the Children's Hospital in that city. The Stevenson Fellowship is at the head of the enterprise, which is said to have been suggested by Mrs. Stevenson, the writer's widow.

"Treasure Island" has delighted the hearts of probably more children than almost any other story, and it is very fitting that a memorial to a writer of such entertaining, clean, and wholesome stories should be connected with a children's hospital.

Dr. Frank E. Chapman, formerly of the Frisco Employees' Hospital, St. Louis, has been appointed superintendent of the St. Louis City Hospital.

NOTES *on* NURSING

The Grading of Nurses.[1]

By MISS MARY M. RIDDLE, Newton, Mass.

In 1893, just two decades ago, we find there was convened in the city of Chicago a body of philanthropists, reformers, and charitable workers, having a section devoted to the consideration of hospitals and dispensaries, with a subsection on nursing. Their report furnishes most interesting reading, and in the light of later-day developments many of the papers and discussions therein contained are truly prophetic.

The same pleas were made that are heard today, for we read that the obligation rests on the hospital to promote the public health by increasing and diffusing knowledge, and no hospital can be considered as doing its complete, best work if it is not contributing to the training of physicians and nurses. And "in considering standards of education for nurses we must not overlook the smaller hospitals, for they have their work to do as well as the larger institutions, but that they are in no position to offer adequate teaching experience to a woman who would become a thorough nurse is very evident."

Florence Nightingale (our highest authority) is reported as writing for that convention these words, which are among her last written, thus calling for the best: "May the methods by which every infant, every human being will have the best chance of health—the methods by which every sick person will have the best chance of recovery—be learned and practiced; may we hope that, when we are all dead and gone, leaders will arise who have been personally experienced in the hard, practical work, the difficulties and the joys of organizing, and who will lead far beyond anything we have done."

And again she says: "Nursing, proper, is therefore to help the patient to live; to teach the nurse how God makes health and how He makes disease; to teach her to observe exactly such stupendous issues as life and death, health and disease; to make her not servile, but loyal, to orders and authorities; to teach her how to handle the agencies within our control which restore health and life, in strict obedience to the physician's or surgeon's power and knowledge."

The report here quoted from is chiefly historical. It contains the present-day principle and tone, asking for better trained people as well as for more and better service to all classes of people, showing that long before the American Hospital Association was born our forbears and our superiors were making the same demands that are made today.

To their everlasting credit be it said that the first calls came from the nurses themselves, and they have continued to this moment. This whole subject of the "grading of nurses" has its origin in the desire of physicians and

[1]Paper read before the American Hospital Association, August 27, 1913.

nurses, whether organized or unorganized, to secure better nursing service for people of moderate means.

Previous efforts have been futile because they have been made with the idea of securing the best service without rendering an equivalent, or they have been attempts to adapt the best service to the possible equivalent by an adjustment of the time given, or the patient has been compelled to accept an equivalent without regard to his needs.

These failures prove that people of moderate means are satisfied, and rightly, with nothing short of the best; that, when given the best for a shorter period of time, they still remain unsatisfied; while for a longer period of time at the same rate the nurse suffers, thus setting forth anew the old axiomatic principle that you cannot get something for nothing.

In 1892 the Massachusetts Emergency and Hygiene Association undertook the training of attendants with a view to caring for chronic invalids and feeble, elderly people. They chose the name attendant for this class of nurses in order that there might be no confusion with the duties or the place of the trained nurse. In reading their prospectus one is impressed with its wisdom and foresight, for one reads that they were to be duly certified; that the prices for their services were to be limited, and were never to be as much as those of the trained nurse; that they were in no sense nurses, but were to serve where the fully trained nurse was not required.

This movement was looked upon with alarm by nurses in training as well as by those in the private duty field, but the attendants were never a large number, which was speedily reduced, for they soon laid aside their title and became full-fledged nurses, ready to compete for any kind of work. We are not aware of any published reason why their training was discontinued.

In 1895 Miss Diana Kimber wrote a paper for the *Trained Nurse*, offering a solution for the two questions, (1) "How can we secure more work for our graduates," and (2) "How can we bring skilled nursing service to people of moderate means?"

The first question was to find its answer in the solution of the second. Miss Kimber proposed a system of visiting and hourly nursing, which sounded well and was well for the same class of patients to whom the attendant was suited, but it did not bring skilled nursing service to people of moderate means for the reason that the hourly nurse, with her schedule of prices, could not earn a living wage. She found that a very sick or an acutely sick patient required so much of her time that she could not visit a sufficient number of patients to make it possible. Moreover, each patient wanted her at the same time and wanted her for the very hardest part of the day's work, proving that nothing short of the best service was sufficient, and it must be rendered at a time wholly suited to the whim of the patient.

Altogether the plan proved impracticable as a remedy for the condition which sought it, though it is now practiced to some extent by nurses who care for chronic patients and by those who do not seek to entirely provide for themselves by nursing.

The Red Cross Rural Nursing Service ought, and we believe will, assist in the solution of the problem. Its usefulness has not yet been proven, but it ought to reach to the most remote parts of our land and is the logical association upon which to depend.

The Hospital Nursing Association of Boston, to quote from its announcement, "has been formed to fill a need in household nursing hitherto unfilled in Boston—namely, to supply whatever kind of care may be required for sickness in the home, each kind so graded as to furnish the maximum of efficiency at the minimum of cost, every grade to be under the supervision of a graduate nurse." This service is to include both nursing and housework, and will be done by graduate nurses, attendants, and household helpers, according to the needs of the case.

This association has made some mistakes, but it has also done some good work, though its usefulness can hardly be said to be firmly established. Its intents and purposes are of the best. Whether it can accomplish them is now its question. It has the advantage over most other schemes in that it proposes to do its work on a business basis, as does also the new venture in connection with the Civic Association of one of Boston's suburban towns, which proposes to work under the title of "Community Nursing and Mutual Aid Association." Its plans are not altogether formulated, though it will work somewhat according to those of the Household Nursing Association. Its aim is to establish a nursing center to which those in search of care for their sick will naturally turn. In response they will be given just the kind of care needed. If an attendant is needed, she will be sent and will be under the closest supervision from the center. If a graduate nurse is required, *she* will be furnished. Instead of grading the nurses, they will practically grade the work and furnish a nurse to fit it. It can be readily seen that in practice there is a vast difference, and it lies in the fact that by this system, owing to close supervision, the attendant may be superseded by the graduate and vice versa.

The question may be raised that householders will object to so much supervision in their homes, but those who have met the situation say the contrary is a fact among the people we are seeking to serve. It is said the rich people and those having many household servants do object, but that does not concern the nursing center, inasmuch as this class can employ whom they will.

The promoters of this scheme believe that greater good may thus be done for the people they desire to reach than is possible through the establishment of a hospital and bringing the sick to it. At least they are not making the mistake of instituting the hospital and demanding new and unethical systems to maintain it, assuming that, since they are fulfilling a need, they are justified in securing, for instance, the nursing service without compensation of any kind, depending on the sensational and seemingly unanswerable affirmation that for the nurse to require such compensation, either in current coin of the realm, or in opportunities for making herself proficient in her chosen calling, is treason, because it creates a hardship for said hospital and possibly its sick.

It may be that the proposed scheme for grading nurses will result in overcoming the difficulties hitherto encountered, but, since human nature does not change on demand and is much the same regardless of class, and since fixed economic laws far outrank those of the Medes and Persians and cannot be broken without the destruction of more than themselves, it follows that we must doubt the scheme's ability, though we stand ready to extend it a most cordial welcome.

Doubtless some apparent advantages might accrue to the people we most desire to help, but would they be lasting—should we be doing the best for all the people in the long run by inaugurating a system which might eventually diminish the number of good nurses? If the old saw, "a chain is as strong as its weakest link," has any truth, then might not our chain be easily broken?

True, all people do not *need* high-priced, skilled care, though experience teaches that they are apt to think they do. Besides, who can tell that the patient may not need the best and most intelligent care before he is returned to his place in life, and can we afford the risk incurred by not giving it to him?

We all believe that the great middle class is what the world must depend on for most everything that is worth while, and therefore the world should see to it that they have the best. In this our bounden duty is evident, and we cannot in conscience repudiate any plan without serious thought.

Again, the smaller and more poorly equipped as well as the purely commercial institutions would have better reasons for their existing training schools, but would they have sufficient interest in our people of moderate means to make their prices to them accord with the service rendered? Doubtless some would. But there is no evident reason why the nurse should be sacrificed or even exploited in the procedure.

It is easy to understand that special hospitals like those for tuberculosis might be greatly benefited, but they have always been free to adopt a system to meet their needs. Let them do so now without lowering the standards for general work, for, by lowering the standards, might we not further reduce the number of really skilled nurses?

The status of the nurses' calling is somewhat precarious today, and we cannot afford to make it more so by adopting any scheme which shall make the good, intelligent, refined young woman turn from us, as she surely will if we lower our standards.

Given a young woman who, though honest and sincere, lacks breeding, intelligence, initiative, or wisdom, and the chances are she cannot be so trained that she shall be as good and useful as if she possessed these qualities or some of them. Above all, we must have the good women, and thus quiet the criticisms regarding the trained nurse, which are so prevalent and so heartrending to the well-bred, conscientious woman who knows that the critics are working a hardship in two directions—they blame the schools for turning out poor nurses, or those who do not meet the requirements, while they make it difficult for the selfsame schools to obtain good women.

We are hearing much about shortage of probationers in our institutions, but there are nurses who, having given thought to existing conditions, are somewhat exercised by the fact that too few of our graduates are willing to care for the sick in their own homes. If a growing condition of this kind exists, is it well to increase it?

Institutions, boards of health, public schools, sanitary commissions, states, cities, and public and private corporations are enticing our graduates into other fields because therein is found congenial work, though the returns are apt to be less lucrative. The work is congenial because it gives opportunity for thought and growth, and has high standards of admission to it, proving the truth of what was read before this association last year—namely, that "the general esteem in which a vocation is held increases in direct ratio with the educational standards of that vocation." Therefore we must keep up our standards to keep our places full of good women.

The overtrained nurse being extinct, or unborn, or at least nonexistent, so far as the knowledge of this writer is concerned, it is difficult to speak of her, and anything said would necessarily be merely theory; but the "so-called" overtrained nurse we know, though her title is a misnomer; she is, as a rule, the product of good, practical experience, with too little ethical instruction, which should have been first impressed on her at her mother's knee. Having been deprived of that, and lacking the sensitive organization which might enable her to realize her need, she passes through her hospital course and enters on her career outside, where she is known for her energy, general intelligence, practical knowledge, and courage in undertaking the hardest of nurses' tasks, but where she fails, or at least does not come up to the full measure of success, because she cannot always discriminate between her duties and those of the physician, or she cannot see that her duty sometimes lies outside and beyond those prescribed as the nurse's own, or she places too high a value on *her* services—that is, she is egotistical, or else she is wanting in a few or many of those fine qualities which go to make "a woman nobly planned." She is in no sense the result of overtraining, but of undertraining, and she proves that the training school cannot always supplement in three years of adult life what should have extended at least from infancy. She is infinitely better than she would have been without the hospital training, and she is a very great argument for keeping up the standards by securing good women.

The short course is dangerous, as it is nothing more than a short cut to a competency. Is it right to offer encouragement to such? It has always existed, and almost always—not always, of course—been deplored as well as deplorable. The unsuspecting applicant for admission to a nurses' training school studies the possibilities and advantages of this or that school, and finally decides on one because it has the shorter course and will consequently insure an earlier return.

In due time she takes her place as a student nurse, and also in due time she finds she has made a mistake—that it is a short course, or practically no course, because little or no attention is paid to theoretical instruction and the practical work is limited in variety. She regrets her decision, but she is told that she has agreed to spend the allotted time and therefore cannot honorably change. Perhaps she discovers her mistake during her probationary period, and may save herself if she is sufficiently sophisticated. This happens over and over again, especially in those hospitals conducted for private gain. We may think we can regulate such conditions by law, but we cannot—we never have.

Let a man or woman have the intrepidity to appear before a legislature and pray for the regulation of such a matter, and he or she will at once recognize the impossibility, for the petition will be scorned as "class legislation." That the grading of nurses would be a distinct advantage to the purely commercial hospital needs no great array of facts for proof. The shorter course furnishes a cheaper method of procuring nursing service, and therefore it is adopted. If there were some way of informing would-be nurses of the dangers of these schools, or if they could be induced to make their application through an authoritative body, like, for instance, the American Hospital Association, or if training schools could in some way be duly and widely published as regular or irregular, the results would doubtless be less grievous.

An advocate of the grading of nurses says: "We must necessarily have training schools of varied degrees of efficiency, some of which turn out nurses not properly trained." Just here lies the danger, but we rarely see it so frankly expressed. Does this writer really mean that it is right to turn out nurses who are not efficient?

Doubtless every training school does it to some extent, but only by accident. It is not a part of the plan.

We had thought it was honestly intended that each grade was to represent the best of its kind. The act of knowingly foisting incompetents on the public is most reprehensible and should be absolutely condemned. Indeed, moderate language fails to adequately express our contempt for such a system.

A writer on this subject of "grading nurses" says: "Just as there are various grades of schools from the kindergarten to the university, so will there be various grades of nursing schools." Alas, there can be no comparison here. The kindergarten pupil hopes to go on to the university, and, even if he does not, he is not, at the end of his kindergarten career, sent out into the world armed with a certificate of proficiency to deal with great questions of health and disease, life and death. Moreover, our graded nurse will not long remain in the grade where she is placed. Experience with the good, so-called, practical nurse—may her ranks increase—has taught us the truth of this statement. She is good, the public likes her, and seeks her services. She soon increases her price, and is no longer available for the middle class. We will not stop to discuss her ethics, for up to the present time she has assumed no ethical standards, and so she is not to be too harshly censured if she has met requirements all along the way; she has gained experience and increased her ability, and she is selling her services to the highest bidder just exactly as the business man is doing everywhere. She is also incidentally depleting the number in her grade and will continue to do so. She would, however, doubtless be the better for more systematic training, which should be made to fit her needs as an attendant, and should consist largely of instruction in practical work and ethics. There is great danger in half-training, and great truth in the old saying about a little learning being dangerous, as may be illustrated by the case of the nurse who, having been told that one-fourth was one-half as much as one-half, concluded that therefore 4 percent was one-half as much as 2 percent, and she doubled the dose she was to give.

The plan of training as formulated by the Community Nursing Association is to be commended in that it proposes to train its attendants for its needs, and to grant no certificate, but to be willing to say, "She did our work well and met our requirements, though always under supervision." The same plan would be dangerous in the hands of a hospital because we should soon see the attendant earning money to support the hospital, probably with no cry from the hospital against a three-year course.

There is wisdom in withholding a certificate unless it be granted under certain conditions from the state, and its value, when balanced with its danger, is exceedingly doubtful in any case. It is too easily flaunted with the idea that "I am now equal to the best."

A certificate is not merely a voucher for work well done while gaining a livelihood, but it ought to indicate that the holder has spent time and money in acquiring what it represents—that years were spent previously in laying a foundation on which to build the ability so represented.

To recapitulate, we believe the grading of nurses to be impractical because they cannot be kept in grades; that it would be a dangerous system to inaugurate because it would encourage the short-course training school in the purely commercial hospital, thus exploiting the nurses taking the training, lowering the standards, bringing discredit on the nurses' calling, and reducing the number of good women willing to take up the work.

We believe there is necessity for the attendant. She should be taught and encouraged, but unless she takes a thorough, systematic training she should not be granted a certificate.

We also believe that outside of hospitals of a certain class the necessity for such grading does not exist—at least the necessity has not been demonstrated; that in time the requirements could be met by the Red Cross Rural Nursing Service, and such other societies as the Household Nursing Association and the Community Nursing and Mutual Aid Association; that it would be wise to encourage such bodies, and quite as easy as to encourage the organization and establishment of hospitals with poor equipment and little money in remote parts of our country, thereby entailing great hardship on the people it is most desired to help, and ultimately resulting, as heretofore described, in lowering nursing standards.

It is also believed that it is within the duty and the province and the power of this great American Hospital Association to hold up the hands of every superintendent of nurses in the land who is striving honestly and selflessly to maintain high standards in her school.

We believe, also, if it can be proven that more good than harm is likely to result from the proposed grading of nurses, that it will be our duty, as it certainly will be our pleasure, to assist in its consummation, for we agree with President Lowell, who said, "We are teaching our people not only that our present patients may have proper care, but that future generations of patients anywhere and everywhere may have it."

We are ready to admit the nurses' responsibility in all matters of public health and common weal. The thoughtful and accomplished nurse of today is studying how she can advance the health of her community, and how she can best assist the mothers and sisters and daughters who are caring for their sick in their own homes. She will devote her hours and exhaust her faculties in any scheme that is proposed for their betterment if it can be proven righteous.

Lack of Training School Heads.

For a long time the lack of pupil nurses, and the too limited number of graduate nurses to supply the ever-growing demand has given great trouble and anxiety to physicians and hospital boards.

Now we seem to have come upon a time when really well-equipped graduate nurses will not assume the responsibilities that go with the hardship of the training school. This does not affect the small hospitals alone. For several weeks two large and finely equipped hospitals in the central West have been vainly looking for women to take the position of superintendent of their training schools. There are not so many of these women at best, and those who seem to be fitted in every way, by education, by training, and by possession of those characteristics of head and heart that we have come to associate with the guiding genius in the modern training school, refuse to take the places on the ground that they can make nearly as much money and at the same time enjoy more of the comforts and luxuries of life in private practice.

It is true, institution life is hard, the responsibilities are great, and usually the pay is not high. But what is to become of nursing when the best women in the profession refuse to assume the burdens?

The writer knows a training school in a 100-bed hospital in which the pupils, almost without exception, are well educated, refined, and tractable young women, who would be the best sort of clay in the hands of a good potter, and yet those girls are getting no training and they know it.

The board of trustees is hunting high and low for a proper superintendent, and up to this time without success.

Without question the leaders of nursing thought in this country would answer this query by saying that if this condition exists, hospitals will have to revise their pay rolls and pay the salaries that the newly created condition has developed.

If this is the correct answer, we shall have to go far back of this point and revise many other things, including the whole cost of hospital administration.

Age Limit of Probationers.

There has been so much nonsense preached about the necessity to accept only "mature women" into training, it is extremely refreshing to quote the following from a paper on this subject by Miss Parsons, superintendent of the training school of the Massachusetts General Hospital, published in the *American Journal of Nursing:*

"My statistics show that about 40 or 50 percent of the probationers who enter under twenty years of age are not accepted, but the statistics show also that of those accepted the percentage of honor pupils in both theoretical and practical work is very high. I would, of course, be glad if all these young women could complete a normal school or college course, but that is out of the question, and I rejoice in my young graduates and love to think how many years they have ahead of them in which to use their knowledge and to go on acquiring experience."

High Standards for Nurses.

The following is an abstract of an address by Dr. Winford H. Smith before the Cincinnati Academy of Medicine, October 20, 1913:

"I wish to speak briefly concerning that most important department—the training school for nurses. This school is a necessity, to enable the hospital to afford adequate nursing for its sick and to train nurses for the care of the sick, both in and outside of the hospital. There is no feature of hospital work which has caused more discussion, some taking the ground that all that is needed is numbers; others, that nursing is a profession and that its members are now called upon for such important work, both in private and public work, that the standards of schools, the entrance requirements, and the methods of training should be of high grade.

"Personally, I believe in the high standards. This profession is too vitally associated with the welfare of the sick, the demands made upon its members are too many, and the responsibilities too heavy to justify anything but high standards. Institutions establishing such schools should be compelled to maintain a definite standard, and provide instruction and training such as will fit the nurse for her work and which will represent an adequate return for the service given. In charge of such a school there must be a thoroughly fine, capable, well-trained woman. She should be allowed to manage the school without unnecessary interference, but always, of course, subject to the approval of the hospital superintendent and board of trustees. In municipal hospitals, particularly, it seems desirable that there be a ladies' board to advise and assist the superintendent of nurses. Such a board, if composed of the right women, will be a bulwark of strength for the benefit of the nursing school. It should be composed of educated, refined women, the representative women of the city, but should not include wives of members of the staff."

Hospital Rules for Graduate Nurses.

The following editorial, in the October *American Journal of Nursing,* seems so appropriate, and the subject seems to be so little understood by graduate nurses, that it is reproduced in full:

"A correspondent asks some questions which she wishes answered in this issue of the Journal, the first of which includes the others: Can a superintendent of nurses in a hospital set any price for a registered nurse to charge a patient when she is on special duty?

"It has always been our opinion that when a nurse enters a hospital she does it with the understanding that she is temporarily a part of the hospital staff, and that she is as much subject to the rules as if she were a permanent resident. The hospital superintendent is responsible for her work for the time being, both to physician and patient, as would be very quickly proved should the nurse by accident neglect or injure the patient, when it would be found that the hospital would be held responsible. Most hospitals have an established price which nurses from the outside are to be paid, and nurses should conform to these regulations or not accept work in the hospital."

STANDARDIZATION OF HOSPITALS.

Urgency of Some Condition in Which Efficiency May Be Measured.

The following appeared as an editorial in a recent issue of the New Orleans *Medical and Surgical Journal:*

"The field of preventive medicine in its relation to public health has grown greatly in importance in the last few years.

"Beginning with the scientific pronouncements from a few laboratories of research, and dealing only with the causes of disease, the application of the knowledge so derived has reached out into the service for public healthfulness. One disease after another has yielded the secrets of its contagiousness, and this victory has made way for the remedial agents in the cure; more than this, the discovery of preventive measures has in many cases followed.

"So it is that the importance of public medicine has grown so as to be no longer the mere field of study and application for the physician, but the public itself is concerned—domestically, commercially, and sociologically. State boards of health are organized now to meet and combat the evils of disease, and as yet their labor has been directed at the control and extirpation of diseases, commonly contagious. Most of their service has been without reference to the hospital.

"In the wider study of disease, however, the combined efforts of sanitarians everywhere must be directed at the systematic apprehension of all disease in a community, and the morbidity bears a direct relation to the incidence of disease, which is not always defined by the mortality records.

"The hospital usually affords a concentrated population, amongst which disease and its types may be plotted with a view to the general study of morbid conditions in the community. The comparative study of hospitals makes for a better and wider knowledge of disease, but there must be some basis for study, and to that end hospitals should have some basis for standardization.

"There has been a natural evolutionary trend to similarity of methods in hospital growth and administration, but until now the systems have developed from the outgrowth of individual hospital preeminence, pointing the way to better ways of doing things. Hospital growth and medical education have consistently traveled together, and there is every likelihood that this will continue. The best evidence of this may be exampled in the proposed study and investigation of hospitals by the American Medical Association.

"The work of the Council of the A. M. A. and of the Carnegie foundations in the study of medical colleges has resulted within five years in a reorganization of medical education, which has raised the standard over 100 percent in the United States.

"Hospitals, of course, may be compared with medical colleges only upon a basis of standards resting chiefly on their efficiency in the purposes for which hospitals now stand. The efficiency of a hospital must rest on its proper care of the sick—medically, humanely, and with that degree of economy which makes for public service. The variety of elements which enter the contemplation of any plan for the standards and classing of hospitals must be large and many-sided, but the proposed task should be welcomed by all hospitals organized for the public welfare and not simply existing for corporate or segregated interests."

HOSPITAL, MEDICAL *and* SPECIAL MEETINGS

President Howell's New Committees.

President Howell, of the American Hospital Association, has announced the committees for the year as given below. In addition to these appointments, President Howell has designated Dr. H. O. Collins, superintendent of the City Hospital, Minneapolis, to conduct the question drawer for the St. Paul meeting. Under Dr. Howell's conduct the question drawer was one of the best features of the Boston meeting, and the new president intended to resign a work in which he was deeply interested into the hands of one whom he felt would bring it into even fuller fruition.

Executive Committee and Committee on Local Arrangements—Dr. A. B. Ancker, superintendent City and County Hospital, St. Paul, Minn.; Dr. Lewis B. Baldwin, superintendent Minnesota Hospital, Minneapolis, Minn.; Mr. G. W. Olsen, superintendent Swedish Hospital, Minneapolis, Minn.; Dr. Herbert O. Collins, superintendent City Hospital, Minneapolis, Minn.; Mrs. Sarah Knight, superintendent Asbury M. E. Deaconess Hospital and Home, Minneapolis, Minn.

Membership Committee—Dr. Lewis B. Baldwin, superintendent Minnesota Hospital, Minneapolis, Minn.; Dr. George W. Sinclair, superintendent General Hospital, Winnipeg, Manitoba; Dr. D. L. Richardson, superintendent City Hospital, Providence, R. I.; Dr. Jos. C. Johnson, superintendent All Saints' Hospital, McAlester, Okla.; Mr. Chas. R. Mason, superintendent City Hospital, Memphis, Tenn.; Miss Rachel A. Metcalfe, superintendent Central Maine General Hospital, Lewiston, Me.

Committee on Constitution and By-Laws and Committee on Development of the Association—Dr. S. S. Goldwater, superintendent Mt. Sinai Hospital, New York, N. Y.; Mr. Reuben O'Brien, superintendent Manhattan Eye and Ear Hospital, New York, N. Y.; Mr. Daniel D. Test, superintendent Pennsylvania Hospital, Philadelphia, Pa.; Dr. C. Irving Fisher, superintendent Presbyterian Hospital, New York, N. Y.; Rev. A. S. Kavanagh, D. D., superintendent Methodist Episcopal Hospital, Brooklyn, N. Y.; Dr. Herbert B. Howard, superintendent Peter Bent Brigham Hospital, Boston, Mass.; Mr. Richard P. Borden, trustee Union Hospital, Fall River, Mass.

Auditing Committee—Mr. J. B. Draper, superintendent University Hospital, Ann Arbor, Mich.; Mr. J. R. Coddington, superintendent Polyclinic Hospital, Philadelphia, Pa.; Dr. Chas. D. Wilkins, superintendent Charity Hospital, New Orleans, La.

Nominating Committee—Dr. John M. Peters, superintendent Rhode Island Hospital, Providence, R. I.; Mr. O. H. Bartine, superintendent Hospital for Ruptured and Crippled, New York, N. Y.; Dr. Freeman A. Tower, superintendent Burbank Hospital, Fitchburg, Mass.

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Special Committee on Bureau of Hospital Information—Dr. Winford H. Smith, chairman, superintendent Johns Hopkins Hospital, Baltimore, Md.; Dr. S. S. Goldwater, superintendent Mt. Sinai Hospital, New York, N. Y.; Dr. Henry M. Hurd, secretary Johns Hopkins Hospital, Baltimore, Md.; Dr. John O. Skinner, superintendent Columbia Hospital, Washington, D. C.

Committee on Noncommercial Exhibits—Miss Lydia H. Keller, superintendent Cobb Hospital, St. Paul, Minn.; Dr. A. W. Smith, superintendent Hartford Hospital, Hartford, Conn.; Miss Harriet Hartry, superintendent St. Barnabas Hospital, Minneapolis, Minn.

Committee to Memorialize Congress to Place Hospital Instruments on the Free List—Rev. Geo. F. Clover, superintendent St. Luke's Hospital, New York, N. Y.; Rev. A. S. Kavanagh, D. D., superintendent Methodist Episcopal Hospital, Brooklyn, N. Y.; Dr. J. N. E. Brown, superintendent Detroit General Hospital, Detroit, Mich.; Dr. W. L. Babcock, superintendent Grace Hospital, Detroit, Mich.; Dr. W. H. Smith, superintendent Johns Hopkins Hospital, Baltimore, Md.

Committee to Consider the Grading and Classification of Nurses—Miss Charlotte A. Aikens, 722 Sheridan avenue, Detroit, Mich.; Miss Emma A. Anderson, superintendent New England Baptist Hospital, Boston, Mass.; Miss Ida M. Barrett, superintendent Union Benevolent Association Hospital, Grand Rapids, Mich.; Dr. R. W. Bruce Smith, inspector of Provincial Hospitals, Toronto, Canada; Dr. Wm. O. Mann, superintendent Massachusetts Homeopathic Hospital, Boston, Mass.; Dr. R. R. Ross, superintendent Buffalo General Hospital, Buffalo, N. Y.

Committee to Study the Character, Cost, and Value of Direct and Indirect Work for the Prevention of Diseases Now Conducted by Hospitals and Dispensaries, to Arrange in the Order of Their Importance and Practicability Successive Steps for the Extension of Such Work, and to Prepare Methods for Its Financial Support and for Its Correlation with the Similar Work of Other Agencies, Public and Private—Dr. J. A. Hornsby, Tower Building, Chicago, Ill.; Dr. W. L. Babcock, superintendent Grace Hospital, Detroit, Mich.; Mr. Sidney E. Goldstein, director Free Synagogue, New York, N. Y.; Miss Charlotte A. Aikens, 722 Sheridan avenue, Detroit, Mich.; Mr. Michael M. Davis, Jr., director Boston Dispensary, Boston, Mass.

Special Committee on the Inspection, Classification, and Standardization of Hospitals—Dr. J. A. Hornsby, Tower Building, Chicago, Ill.; Dr. Henry M. Hurd, secretary Johns Hopkins Hospital, Baltimore, Md.; Dr. Frederic A. Washburn, administrator Massachusetts General Hospital, Boston, Mass.

Committee on Out-Patient Work—Mr. Michael M. Davis, Jr., director Boston Dispensary, Boston, Mass.; Dr. Andrew B. Warner, assistant superintendent Lakeside Hospital, Cleveland, Ohio; Dr. Joseph B. Howland, assistant resident physician Massachusetts General Hospital, Boston, Mass.; Dr. Willis G. Nealley, superintendent Brooklyn Hospital, Brooklyn, N. Y.; Dr. R. B. Seem, assistant superintendent Johns Hopkins Hospital, Baltimore, Md.

Special Committee to Consider Suggestions Made in Mr. E. P. Haworth's Paper on What the American Hospital Association Can Do for the Hospitals of America—Mr. G. W. Olsen, superintendent Swedish Hospital, Minneapolis, Minn.; Dr. J. W. Fowler, superintendent City Hospital, Louisville, Ky.; Mr. E. P. Haworth, superintendent The Willows Maternity Sanitarium, Kansas City, Mo.

Committee on Legislation—Dr. Wayne Smith, superintendent Harper Hospital, Detroit, Mich.; Dr. George O'Hanlon, superintendent Bellevue Hospital, New York, N. Y.; Mr. A. W. Weismann, superintendent Hahneman Hospital, New York, N. Y.

And Now Comes a Bird Hospital.

New York has a woman bird doctor who maintains a hospital exclusively for her feathered patients, where she undertakes the most delicate surgical operations and treats them for every ill known. The doctor, Miss Virginia Pope, not only has found this hospital profitable, but has been compelled to construct an annex, and she cares for many of the rare specimens from the aviaries of the rich.

NEWS *of the* HOSPITALS *and* SANATORIUMS

The British Medical Association is all but disrupted on account of Lloyd-George's panel law providing for the medical care of the poor of Great Britain at greatly reduced rates. The association, as a body, fought the enforcement of the law, which was put into effect notwithstanding. Immediately the great bulk of the profession switched over, leaving the association in a most unenviable plight. Members are now deserting on the ground that the association had shown unwise leadership, and was therefore incapable of protecting the profession.

Sibley Hospital, Washington, D. C., is to receive the benefit of a general canvass for financial aid undertaken by the graduate and student nurses of the institution, and in charge of Dr. William H. Wilder, its superintendent. This appeal, which is to extend through the month of November, is the first made by the hospital in twenty years, and will be devoted to extensive improvements. No appropriation from Congress has been received since the founding of the hospital in 1894, and the work, much of which is charitable, has been carried on through individual generosity.

Muhlenberg Hospital, of Plainfield, N. J., opened a new 50-bed private pavilion on November 28, with effective ceremonies and a reception to "town and county officials and the medical and journalistic professions." The new building is a very beautiful three-story and basement edifice, of tapestry brick, simple but very dignified. It is well arranged, as viewed from the plans, and is equipped with the most modern apparatus.

The Muhlenberg group now contains eleven handsome buildings, but the best thing about the hospital is its efficient personnel, beginning with a group of trustees who realize that a board, to govern, must be informed. The board's inclusion, in the invitation to their opening, of the "journalistic profession" shows that it courts proper publicity and knows how to go about getting it.

England's Tuberculosis Dispensary.

Birmingham has always been a city in which the importance of linking up the various health agencies and after-care organizations has been recognized. The latest addition to its preventive work, since after-care must be included in that term, is the new tuberculosis center and city analyst's laboratory, says the London *Hospital*. It consists of a waiting hall, with consulting, inoculation, and dressing rooms for both sexes and a joint dispensary on the ground floor. The upper part of the building is occupied by Mr. J. Liversege's laboratory as city analyst. The aim, of course, of the center is preventive and consultative work. It will be a center for the examination of "contacts" and a general information bureau open to every citizen. As a center for educational propaganda also it is hoped to do much good work, and during the winter there is a project for holding a course of lectures to patients and their friends. At the present time—for part of the institution has been in use for some six months—900 patients a week are being dealt with. Few things have been more remarkable in institutional development of late years than the way in which the dispensary has grown from a single department into a unit embracing educational, consultative, and specialized branches. The dispensing is now only one part of what is virtually a new institution which the word "center" not inaptly describes.

American Ward in London Hospital.

The French, German, and Italian communities in London each support a hospital known by the names of their respective nationalities; but hitherto the Americans, more numerous and more affluent, probably, than any other visitors, have done nothing in a corporate way toward hospital work and support. As a matter of fact, Americans have done a lot for various of our British hospitals in which they are interested, and it would be quite erroneous to suppose that they are less generous or less charitable than the Continentals. The very nearness of their kinship with us renders them so much less strangers in our midst than those whose speech is alien, that a special hospital run by Americans is certainly not a pressing need. There is, however, no doubt that some appeal to American pride of race would be a powerful aid toward creating an interest in the work of our hospitals, and that it might induce many to subscribe who hitherto have not done so. Obvious as this sounds, now that someone has had the happy thought and translated it into deeds, we must not fail to give the credit of it to its originator, whose name has not transpired. At any rate, the good idea has resulted in the formation of a committee on which many well-known and representative Anglo-Americans will serve, and it has been decided to endow a number of beds in the London Hospital (if possible, an entire ward), to be supported by Americans for Americans in that institution. Mr. R. P. McGrath, of the London Hospital, is treasurer, and Mr. J. P. Coughlan, Walter House, Strand, secretary of the movement, to which we wish every success. Incidentally, we may felicitate the London Hospital also on the additional strength which the arrangement is likely to afford it.—The Hospital, London.

Continuous Service of Medical Staffs.

President Howell, of the American Hospital Association, has sent out a letter making an inquiry of hospital superintendents concerning medical staff service. He wishes to hear from all hospitals on this point. Dr. Howell's letter follows, and it is hoped that every superintendent will reply promptly, telling whether the staff service is continuous or intermittent. The president will be grateful for information concerning any special features of staff organization in any hospital.

"I desire to ascertain how many hospitals there are in this country which provide continuous services for their attending staffs. I am writing to ask you if you will furnish me with a list of all the institutions you know of which provide such service.

"Very truly yours,

"THOS. HOWELL."

Mr. Michael M. Davis, director of the Boston Dispensary, was the principal speaker at a meeting at the Academy of Music, Brooklyn, on November 11. A campaign is being inaugurated by the Brooklyn Institute to educate the public to the needs of social service.

QUERIES *and* ANSWERS

The Use of Ether.

To the Editor of THE MODERN HOSPITAL:

I am writing to ask what ether you advise for anesthetic purposes? The Squibb ether has been used here almost entirely, but there is so much difference in the price of this and the Mallinckrodt that I am anxious to know about it, both from the standpoint of safety and economy, and shall be glad of any information you can give me.

IDA B. VENNER,
Superintendent Passavant Memorial Hospital, Jacksonville, Ill.

The hold that Squibb's ether has on the medical profession is due to conditions now long gone by. There was a time when Squibb's ether was the only reliable ether on the market. Now there are other ethers that are quite as good and much cheaper, notably the one you mention, Mallinckrodt's. Two or three years ago I made some exhaustive tests with these two ethers in the Michael Reese Hospital. The tests were undertaken on account of the great difference in price between the two, and because the surgical staff declined to use any but Squibb's unless some definite showing could be made. In these tests, which were carried on in the chemical laboratories of the institution, it was shown that the purity, strength, evaporation, etc., were identical, and that the invoices of Mallinckrodt from month to month held remarkably true. Since that time Mallinckrodt's ether has been used exclusively and satisfactorily. Most of the large eastern hospitals use either Mallinckrodt's or both indifferently.

JOHN A. HORNSBY.

Floors for Tuberculosis Hospital.

To the Editor of THE MODERN HOSPITAL:

As a subscriber of your journal I am writing to you for some information in regard to the best kind of floors to be used for a tuberculosis hospital. I have had several experts advise me to use wood floors for the reason that patients can obtain more comfort from wood, that it is not so cold or tiresome, and is warmer in cold weather and cooler in hot weather. I also find several hospitals covering the tile or composition floors with wood for the same reasons. If you will kindly furnish me with your best judgment in this matter I will appreciate it.

EDGAR P. MADORIE,
Architect, Kansas City, Mo.

There is no doubt that tuberculosis patients will be peculiarly susceptible to the influence of cold tile, concrete, or composition floors. They have a temperature as a rule, chill easily, and "catch cold" quickly. On the other hand, tuberculosis bacilli enjoy the dark and usually moist and dirty cracks in wood floors, and these floors are almost prohibitive on this account, even if it were economically possible to keep them clean and nice appearing, which it is not.

I am very much impressed with the value of battleship linoleum, especially for the purpose indicated by the inquirer. In six-foot widths, cemented to the floor all over, and not just around the edges, and set flush with the edge of the rounded cove base all around the room, I cannot conceive a better floor. It can be waxed or varnished after it has set well—after a year on the floor, for instance—and small rag rugs can be used when patients' feet are to rest for any length of time, at the bedside and out in the floor where the chairs will be. These rugs can be sterilized, boiled, or sent through the laundry washers when necessary.

Cheap Thermometers.

To the Editor of THE MODERN HOSPITAL:

How cheap may one buy clinical thermometers and still feel that one has a right to expect that they will be accurate? We have recently been offered thermometers so cheap that we are afraid of them. T. W. A.

Why not make accuracy your guide instead of price? Any thermometers you buy should have previously been tested. You had better not accept thermometers that are "off," even though the variations are registered on the slip that accompanies them, because the slip gets lost and the ownership of the thermometer changes from one nurse to another, and the variation is forgotten. It is best to test your thermometers when they are received, in spite of any guarantee. Keep one absolutely accurate thermometer for a control; place a dozen at a time, including the control, in water at about fever temperature; stir the water gently to insure uniform temperature; leave them in just the time they are gauged for; if they are "three-minute" thermometers, leave them in exactly three minutes; those that have not registered in the proper time are dangerous because nurses are not expected to wait longer. Reject and return all that show variations.

But this is not enough; thermometers have been known to register properly for a month or longer, and then, because of some slight defect in the glass or the mercury, or the making, go "off." About once a month every thermometer in the house should be exchanged "for a new one." This will give an opportunity for the head nurse to test all over again. This exchange day for thermometers should be just as much a part of the nursing technic as any other procedure.

Sterilizing Rubber Gloves.

To the Editor of THE MODERN HOSPITAL:

What do you consider the best, surest, and easiest way to sterilize rubber gloves? Our surgeons demand so much heat, persisted in for so long a time, that our gloves go to pieces in three or four usings.

J. W. H.

I think we have been growing rather hysterical about the sterilization of rubber gloves. A good test of this fact is that, if you compel surgeons to pay for their own gloves, they are satisfied with far less heat and a less destructive process, than where the hospital gives them all the gloves they ask for without expense to them, and yet it may be assumed that in either case they will insist on a thorough job.

If gloves are well cleaned in hot water and green soap, and are then put into hot water at a temperature of 180° F. for forty-five minutes, they will be absolutely sterile unless they have been handling one of the spore-forming microorganisms, such as tetanus or the gas bacillus, in which case they will have to be boiled at 212°F. for an hour. This last process is very destructive of rubber. Most hospitals run their gloves through the dressing sterilizer (vacuum) 10—20—10, with the dressings. The drying part of this process is terribly hard on rubber, and I think it is wholly unnecessary according to the rules laid

down for the death point of the pathogenic microorganisms.

It seems to me that the sterilization of the gloves is a far simpler problem than that of maintaining sterility after they are heated and until they are used again. You may sterilize all you please, but, unless you keep them sterile afterward until used, what is the advantage? I have been thinking recently of a sterile waxed envelope in which they can be kept sealed. They can be powdered with sterile talc before sealing.

JOHN A. HORNSBY.

Temperature of Water in Rubber Bottle That Will Burn Patient.

To the Editor of THE MODERN HOSPITAL:

How hot must water be in a rubber bottle to burn a patient? A child in our hospital was burned during the "sleep" after operation. The nurse, corroborated by the house physician who was helping her fill the bottles, declared the water was at a temperature of 110° F. before it was poured into the bottles, and it must have cooled at least a little during the process. Some of the doctors insist the temperature must have been higher.

J. W. G.

There is no doubt that water at 110° F. will burn a child under the conditions you have named, especially if there was pressure under the bottle sufficient to have still further lowered the blood supply to the part. It is not so much the temperature of the water as the stasis of tissue at the site of the bottle that permits the burning. If there is a good, free blood supply to the part, pretty high temperatures will be borne without injury, even in the case of a child. The blood, passing through, flushes the part, always bringing in cooler blood to replace that which has been overheated and to cool the solid tissue. This can be, and often has been, illustrated in irrigating the vagina with hot water. Water at even 140° F. can be used without any worse result than temporary discomfort, provided there is no speculum or retractor in at the time; but put in a speculum and exert pressure, so that the blood supply under it is cut off during the process, and water at 115° F. will make a bad burn at the point of pressure. This is precisely the principle at work when patients with "low vitality," or patients just returned from the operating room, are burned. It is a question of poor and sluggish blood supply, and an absence or sluggishness of the flushing process—pressure at the point, or weak driving power behind the blood stream.

Metal bottles burn at a lower temperature than rubber because of better conductivity of heat, and a thickness or two of flannel or coarse cloth has saved many a patient. But the pressure is the main cause of burns; that is why nearly all burns are located where the patient has rested on the bottle.

A hospital superintendent who had been allowing the medical staff to prescribe from 6 to 8-ounce bottles of medicine for patients without protest, persuaded the staff itself to make a rule cutting amounts down to the actual, immediate needs of the case, and he cut his bills for medicine in two the first month. The same rule provided that no proprietary medicines or medicines that come in sealed packages should be ordered without special arrangement.

The chief advantage of these two rules was in persuading the medical staff to put the check on itself, instead of having the initiative come from the administrator. The men really take a pride in enforcing their own rule, while they would have fought its enforcement, at least indirectly, if they had been coerced into it. But the saving was well worth while.

HINTS FOR HOSPITAL SUPERINTENDENTS.

When the prison warden of the American penitentiary is a hospital administrator who has had the ripest training in psychiatry and psychopathology, and when the turnkey's salary is being drawn by the hospital pathologist, the self-satisfied people of our country may begin to feel that we are really getting somewhere.

A hospital that has been using a barrel of alcohol a month cut the amount down to a barrel for four months by giving the nurses a 20-percent alcohol for rubs instead of 60-percent. The rubbing is the thing that does the most good in alcohol rubs, though the alcohol has great cleansing power and helps greatly to prevent bed sores.

Don't buy short-fiber floor mops. They are made of waste bits of cotton, and leave their trail in the shape of dirty strings wherever they are used—in corners, on casters, table and chair feet, on radiator legs, and even on the walls. These short-lived mops cost on an average 25 cents each, while a long-fiber, well-knit twine mop costs 50 cents. The latter lasts at least eight times as long as the former and leaves no trail behind it.

Rough cement floors painted red are worse than useless. They clean badly, always look dirty, and hold microorganisms of all kinds in the fine blowholes and interstices. These floors are all right for many places, but they should be, as soon as laid and before workmen have had time to grind dirt into them with their heels, covered with an approved waterproof cement paint tinted the color you want. The carbolithic and other composition floors should be oiled with boiled linseed oil about once a week until they will not absorb any more, after which they can be kept clean and will be impervious.

Some of the most economical practices in hospitals are the most expensive. Take the item of paint. Cheap paints come very high in the long run; it costs just about as much for labor as it does for enough paint to go over a room or a corridor. If you use a paint that will last a year, it will cost a little more than one that will wash off with the first soap and water, but the labor will be only half as much.

Don't permit your board of directors or any member of it to give orders to your subordinates. Boards are disposed to do this without realizing that the first result of it will be subversion of all discipline, quickly followed by inefficiency in your own efforts to control people and things; the final outcome will inevitably be your failure as a superintendent, and a necessity on their part to get some one else, notwithstanding the fact that you could have made good if they had given you a chance. Your duty to the hospital is to protest to your board if they go over your head to deal directly with your subordinates; explain just why you object to it, announce your willingness to take orders from the board at all times, and to be held accountable by the board for whatever transpires. If they insist on their right to give orders to others than you in the hospital, it is your duty to yourself to resign before you have become a failure and are dismissed as inefficient.

A tuberculosis sanatorium is to be built at Silver City, N. M., by the Methodist Episcopal Church of the United States.

A NOTABLE WORK ON STATISTICS.

Bulletin of Johns Hopkins Paves Way for New Era in Hospital Data Efficiency.

The need of better hospital statistics has for many years been recognized by all who are familiar with the facts, and who, for professional or other purposes, are required to make use of the more or less inadequate information at present available. It is lamentably true that this important field of statistical research has been almost completely neglected, not only by those in charge of hospitals and allied institutions, but also by the medical profession. Of thousands of institutional reports published annually in the United States, only a few contain an intelligent, practically useful, and scientifically comparable statistical account of the experience reported upon. The Johns Hopkins Hospital, in this respect, has from its establishment been a notable exception, and the facts published annually have been most useful, not only to the medical profession, but also to the laity interested in the results of hospital treatment. In appreciation of the general scientific utility of the Johns Hopkins Hospital statistics, Mr. Frederick L. Hoffman, the well-known statistician of the Prudential Insurance Company of America, has subjected the published material for the last twenty years to a thorough critical analysis, first presented in the form of an address before the Johns Hopkins Medical Society, and now printed, with numerous additional tables and diagrams, as one of the bulletins of this well-known institution.

The monograph by Mr. Hoffman is practically a treatise on hospital statistics, and a guide to the statistical methods which should govern in the annual publication of hospital reports. The discussion is chiefly limited to the medical and surgical statistics of the hospital, and does not include a critical consideration of hospital accountancy, etc. After pointing out the practical utility of hospital statistics to the medical profession and the laity, and the imperative need of uniformity, the author briefly considers the problem of morbidity, both general and institutional, and the closely allied subject of nosography and the public registration of diseases. By correlating the statistics of admissions according to age, sex, and principal diseases, or nonpathological conditions on admission, to the population of Baltimore, according to sex, age, and race, the relative importance to the community of each factor is established, at least with approximate scientific accuracy. The value of this method, which is entirely new in hospital statistics, is best illustrated in the statement that, in proportion to population, the general admission rate to Johns Hopkins Hospital for the decade ending with 1911 was 79.9 per 10,000 for white males, 70.4 for white females, 99.9 for colored males, and 135.4 for colored females. For both races and sexes combined the aggregate admission rate was 81.8. This rate is based on 44,263 admissions to Johns Hopkins Hospital during the decade ending with 1911.

The discussion of the admission rates according to population properly includes observations on the probable number of admissions to institutions other than Johns Hopkins Hospital, and the observed variations in the death rates of the white and colored as well as the institutional mortality generally, which is calculated on the basis of the resident white population, have been 16.7 per 10,000 of population, and of the resident colored population, 32.6. The institutional death rates of nonresidents in Baltimore were 7.0 per 10,000 for the whites and 8.3 for the colored. These rates are based on the decade ending with 1910.

There are seventy-two tables appended to the discussion, divided into eight sections, following a summary table of statistics of patients treated, with recovery and mortality data for the twenty years ending with 1911.

The first section, consisting of eleven tables, shows the general statistics for white patients, differentiating medical, surgical, gynecological, and obstetrical cases, and seven specified divisional periods of life.

The second section gives the same information in corresponding detail for the colored patients.

In the third section the admission rates are in proportion to population and according to color, sex, condition on admission, and method of treatment, whether medical, surgical, gynecological, or obstetrical.

The fourth section, in eight tables, exhibits the percentage distribution of admissions by causes, and also according to color, sex, etc.

The fifth section shows the summary of admissions and mortality by causes of white patients in four tables, and in three additional tables the information in complete detail for every cause, alphabetically arranged in conformity to the Bellevue classification of diseases. This is followed by a brief table of obstetrical cases for the period of 1904-1911.

The sixth section shows the corresponding information for colored patients. These two sections combined constitute the most important portion of the work, and they represent an almost inconceivable amount of labor involved in the original rearrangement of the data and the calculation and verification of many thousands of fatality rates. The tables would have been increased in value if recovery rates had been given, but, since the term itself is rather indefinite, in the absence of subsequent verification of results the author limits himself to a statement of ascertained facts. The tables, however, are not limited in their usefulness to the fatality rates shown, since naturally in the case of a very large number of diseases no fatalities occurred, but of much greater value is the concise exhibit of the actual distribution of institutional morbidity in the case of a representative hospital in a representative community, with due regard to the elementary factors of age and sex, and method of treatment—that is, whether medical, surgical, gynecological, or obstetrical. As an illustration of the amount of labor involved in a tabulation of this kind, we have ascertained the number of separate diseases or nonpathological conditions enumerated in the tabulation of white medical cases only, and these we find to be 678. The corresponding numbers for the other groups of cases are as large, if not larger. The tabulation for the first time presents in a strictly scientific manner the distribution of morbidity, arranged on a plan which has the sanction of Bellevue Hospital and which has been adopted by many other hospitals throughout the country. As far as practicable, the classification conforms to the international classification of causes of death. The adoption of this classification by all of the principal hospitals throughout the country, and in conformity to the methods suggested by the author of this work, would unquestionably constitute a memorable advance in hospital administration and the practical utility of hospital results.

The seventh section consists of a number of special tables, including four on malignant tumors in detail, with admission and mortality rates, three tables on the Baltimore population and mortality statistics according to sex and race, one table on the statistics of days' treatment at Johns Hopkins for the twenty years ending with 1911, and nine tables on dispensary statistics, followed by one

on the statistics of x-ray treatment, radiographs, and fluoroscopic examinations, limited, however, to the period 1903-1911.

The eighth section gives the financial statistics of the hospital.

Appended to the text of the report is a bibliography of papers and references to hospital statistics, and the nomenclature and registration of diseases.

The analysis proper of the Johns Hopkins experience brings out many important facts of profound interest to the medical and surgical professions as well as to the laity. From the wealth of useful and instructive information contained in the work, which constitutes practically a cyclopedia of reference on the subject of hospital experience data, only the following can be very briefly referred to:

In appendicitis the fatality rate for white male patients was 3.5 percent, and for white female patients, 1.2 per cent. For colored male patients the corresponding rate was 11.8, and for colored females, 10.5. A similar disparity in the rates is observed when the required distinction is made as regards medical, surgical, and gynecological cases.

In the case of tumors the mortality rate has been as follows: for benign tumors the rate was 10.5 percent for white male patients against 5.2 percent for white female patients; and in the case of malignant tumors, 15.0 percent for white males and 10.7 percent for white females. For colored patients the fatality rate in benign tumors was 5.9 percent for males, and 4.0 percent for females; and in malignant tumors, 26.1 percent for males and 11.3 percent for females. In proportion to population, the admission rate for malignant tumors was 4.8 per 10,000 population for white males and 4.2 for white females. For colored patients the corresponding admission rates were 3.2 for males and 4.5 for females. Combining benign and malignant tumors, the respective admission rates for the decade ending with 1911 were 6.74 per 10,000 for white males, 7.32 for white females, 4.51 for colored males, and 15.56 for colored females.

Of the total number of admissions, the proportion of admissions for benign and malignant tumors was 8.4 percent for white males, 10.4 percent for white females, 4.5 percent for colored males, and 12.2 percent for colored females. In the case of white males the principal cause of admission was infectious diseases, accounting for 16 percent of the total; in the case of white females, diseases of the reproductive organs, accounting for 20.8 percent; in the case of colored males, infectious diseases, represented by 26.5 percent; and in the case of colored females, obstetrical conditions, accounting for 30.6 percent.

The financial statistics of the hospital, though discussed very briefly, are of considerable interest. The average gross cost per patient treated per day increased from $2.88 in 1907 to $3.61 in 1911, and the average net cost increased from $1.26 to $1.69 during the same period. The average number of days' treatment, however, decreased from 24.2 days during the first decade to 22.1 during the last; in 1911 the average duration was only 19.3 days.

The author concludes this notable contribution to the science of hospital administration with the following appeal to the hospital profession throughout the United States for uniformity in statistical methods and the adoption of the Bellevue classification of diseases:

"By presenting the experience of a large hospital, typical of modern methods of medical and surgical treatment, in a convenient form, I feel that a basis has been provided for a beginning, at least, in modern uniform hospital statistics, which are absolutely necessary as an aid toward the study of medical problems in their relation to broad questions of public policy. It is also to be hoped that as the result of this investigation the hospitals may be induced to adopt the Bellevue Hospital classification as practically the most suitable for medical and other purposes. In return, the hope may be indulged that Bellevue Hospital, and other great hospitals throughout the country as well, may be induced to adopt in their reports the method of statistical presentation which has been successfully carried forward from year to year by the Johns Hopkins Hospital from its beginning, and which, if adopted by other institutions, would bring order out of chaos and make the enormous amount of hospital experience really useful to the student of medicine, as well as of many other branches of learning, vitally interested in the facts, which have a much broader social and economic significance than is usually assumed to be the case."

The preparation of such a work would hardly have been possible but for the author's professional connection with a great life insurance company, which for many years has been foremost in fostering and encouraging statistical research in the underlying causes of American mortality and morbidity, and the economic problems resulting therefrom in their special relation to insurance. The scientific work done by this company has been properly recognized on numerous occasions by international juries, and awards granted to its exhibits of medical statistics at international expositions, but we venture to say that in the aid rendered in the preparation of the present volume the company has done vastly more for the Johns Hopkins Hospital than would have been possible by a very substantial direct financial contribution. The work of the author is too well known to require special praise, but it may not be inappropriate to add that the work is dedicated by him to Sir William Osler in appreciation of his friendship and constant encouragement of the statistical method in medicine.

Friend of Patient In Operating Room.

The following letter was published in the Journal of the American Medical Association of November 15. There are many more reasons why friends of patients should never be admitted to the operating room, but the two cases cited are sufficient reasons:

"A rather sad but unique accident occurred in my service at Harper Hospital, Detroit, October 30, which answers this question most convincingly in the negative. A friend of a patient insisted on being admitted to the operating room. He was told that the privilege was not allowed by the rules of the hospital, but could not understand why it should be denied him. He maintained that as long as his own daughter was the nurse in charge of the case, and that the patient to be operated on was a dear friend, he surely would be able to withstand the strain of the operation without any evil effect, and after some discussion he was finally admitted. During the course of the operation this friend fainted, striking his head on the mosaic floor. He bled from the nose and ears, and röntgenoscopy revealed a T fracture of the base of the skull. His condition is still critical.

"Another even more disastrous accident occurred at the Kalamazoo Hospital not very long ago. In this case the patient's relative felt a feeling of faintness coming over him, and in order to rid himself of the disagreeable sensations walked over to an open window for more fresh air. He sat on the window-sill and while sitting there fainted away completely. He fell out of the window, and in falling sustained a fracture of a cervical vertebra which proved fatal.

"I cite these two cases just to show what evil results may follow the unnecessary practice of admitting friends of patients to the operating room.

"Angus McLean, M. D., Detroit."

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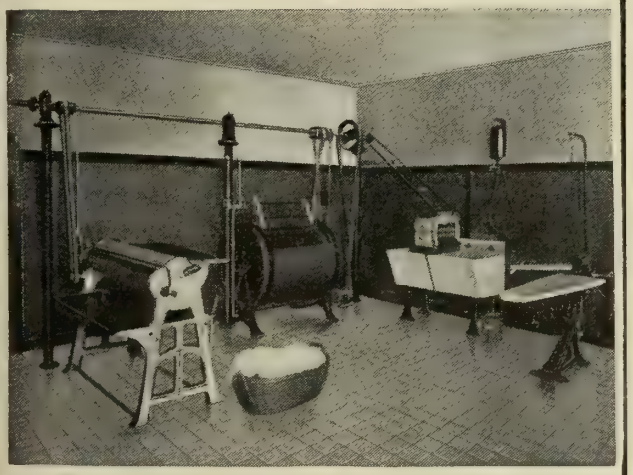

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OUT-PATIENT WORK SYSTEMATIZED.

New York Association Makes Important Report on Tonsil Cases, Syphilis, and Gonorrhea.

The time is almost at hand when every hospital, large and small, must conduct an out-patient service and a dispensary, and very many have such departments already.

It is particularly timely, in view of the foregoing, that so great a hospital and social center as New York should have correlated some most important data concerning out-patient work, and especially in directions that refer to perhaps the most difficult problems incident to that character of service.

New York has recently created a city-wide association of out-patient clinics, made up of representatives of many of the best hospitals and dispensaries. The medical staffs of the association have undertaken carefully prescribed studies of various classes of patients, and the first findings are just now available.

THROAT AND NOSE CASES.

The first report concerns throat and nose cases, and comes from the Section on Laryngology and Rhinology, which also is associated with the New York Academy of Medicine. Most fittingly "the tonsil situation" is taken up first. The report, signed by Dr. William Wesley Carter, chairman, and Dr. C. D. Van Wagenen, secretary, is published in full:

Associated Out-Patient Clinics of the City of New York:

Dear Sirs: Desiring to comply with your request for an expression of opinion from the members of the Laryngological Section on certain phases of the "Tonsil Situation" in this city, the matter was brought before the section at the regular meeting on March 26th. On motion, the secretary was instructed to send each member a circular letter embodying the questions contained in your communication. Some seventy responses were received, and the following report embraces the opinion of the majority of those who answered this letter:

1st Question.—Should the present wide-spread practice of tonsillectomy in children be continued and the school inspectors encouraged in urging parents to have their children's tonsils removed?

Answer.—(a) Tonsillectomy in children should be advised only by those especially trained to recognize the conditions demanding this operation.

(b) The average school inspector and visiting nurse is incompetent to decide this question.

(c) Parents should not be advised to take their children to certain institutions, as this encourages many to seek charity who otherwise would not do so, thus tending to pauperize the community. The majority favor tonsillectomy in every instance, but some few believe that tonsillotomy still has its place.

2d Question.—Should either tonsillectomy or tonsillotomy, or both, be performed in out-patient clinics?

Answer.—(a) The majority believe that both are operations requiring the facilities of a hospital.

(b) A small minority believe that both operations can be safely done in an out-patient clinic, while some few believe that tonsillotomy, but not tonsillectomy, may be done without hospital facilities.

3d Question.—If the previous question is answered in the affirmative, what facilities should be provided for the surgical treatment and after-care of these patients? Should operations be performed in dispensaries (a) which have no special operating room, (b) which have no recovery room where patients may be kept after operation?

Answer.—The few who think that this operation can be safely performed in a dispensary believe that a recovery room should be provided, where patients may be kept for several hours under observation.

The recommendations of the staff concerning the handling of syphilis covers not only the conduct of the clinic, but embodies instructions to be printed and given

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to each sufferer from the disease, and the same course was followed with gonorrhea and chancroid:

SYPHILIS—RECOMMENDATIONS.

1. The treatment of syphilis, whatever its manifestation, should be conducted in one department, which shall be either a special department of syphilis or the dermatological department.
2. Whenever the nature of the lesion, such as eye, throat, viscera, etc., has directed the patient to a department other than that for syphilitics, the treatment should be conducted jointly by the two departments, but the antisyphilitic treatment be administered in the department of syphilis or the dermatological department.
3. Every department for the treatment of syphilis should be provided with a dark-field microscope.
4. Facilities for making the Wasserman reaction test should be provided, if possible, in every institution where syphilis is treated.
5. Wherever laboratory facilities for making the Wasserman reaction test are not available at the clinic, provisions should be made for the prompt conveyance of the specimens to the department of health or other place at which the examinations are made.
6. The principle of limitation of the number of patients in each clinic should be adopted, such limitation to be based on the estimated facilities in men and equipment of each clinic.
7. Intravenous medication may be administered to suitable ambulatory cases of syphilis.
8. In view of the fact that an obligation to render a patient with an infectious disease innocuous at the earliest possible moment rests on the institution to which the patient has applied for treatment, it is the duty of such an institution to provide suitable medication free to those who are unable to pay for it.
9. The association recommends that a suitable uniform circular of instructions be given to every syphilitic patient at the dispensary.
10. The association recommends that uniform forms of records be employed in all the clinics treating syphilis.

INSTRUCTIONS TO THOSE HAVING SYPHILIS.

Your disease is not only a skin disease; it is a disease of the whole body, which may seriously injure the heart, liver, bones, brain, nerves. It is a very serious disease, leading to severe injury or destruction of important parts, such as the eyes, or to such injury of the blood vessels and heart as may result in sudden death, or to such damage to the spinal cord and brain as to lead to paralysis and insanity.

But it can be cured if you are willing to take the trouble and will follow your doctor's orders.

When your present trouble is over you may think that your disease has been cured, and you will then neglect further treatment. The object of this circular is to warn you against this foolish idea. The disease may be present "in the blood" without showing any outward sign, and may strike you down even after twenty years of apparent good health. Your doctor will tell you when you may stop treatment. You will have to report to him for treatment or for "blood" tests for several years. But do not think that you are cured because you feel well and do not see anything wrong with yourself.

The disease is catching, and unless you are careful you may give it to some one of your family or friends:

1. Always sleep alone.
2. Have separate towels, brushes, razors, soap, etc., and never let anyone else use yours.
3. Never let anyone use anything that has been in your mouth, such as tooth-brushes, tooth-picks, pipes, cigars, pencils, spoons, forks, cups, etc.
4. If you have to see a dentist, tell him about your disease before he examines your teeth.
5. Do not kiss anyone.
6. Do not have sexual intercourse during the first year, nor thereafter, until you have permission from your doctor.
7. Always burn dressings that have been on open sores.
8. Do not marry until your doctor tells you it is safe to do so.
9. Do not smoke or chew tobacco. Do not take any alcoholic drinks, such as beer, gin, whisky, brandy, etc.
10. Always tell any doctor whom you may consult for any trouble hereafter that you have had this disease.

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The blood, the parent issue, is alkaline in health; acid in disease. Microbic action usually produces organic acids. Defenses are alkaline.

According to Hayem and others, the more serious diarrheas are the result of the presence of organic acids due to microbic action.

Aulde, in his recent work on The Chemic Problem in Nutrition, shows that, the body-fluids being normally alkaline, acidity necessarily leads to metabolic disorders which ultimately register themselves in organic disease. He states, as the first principle in the treatment of every infectious and metabolic disease, "Neutralize acid excess with alkaline-saline medication."

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GONORRHEA AND CHANCROID—RECOMMENDATIONS.

1. Every department for the treatment of gonorrhea and chancroid should be provided with a microscope.
2. Every department for the treatment of gonorrhea and chancroid should be provided with proper facilities for sterilization.
3. Facilities for endoscopic and cystoscopic work should be provided.
4. Wherever laboratory facilities for making the complement deviation test for gonorrhea are not available at the clinic, provision should be made for the prompt conveyance of the specimens to the department of health or other place at which the examinations are made.
5. The principle of limitation of the number of patients in each clinic should be adopted, such limitation to be based on the estimated facilities in men and equipment of each clinic.
6. In view of the fact that an obligation to render a patient with an infectious disease innocuous at the earliest possible moment rests on the institution to which the patient has applied for treatment, it is the duty of such an institution to provide suitable medication free to those who are unable to pay for it.
7. The association recommends that a suitable uniform circular of instructions be given, at the dispensary, to every patient suffering from gonorrhea.
8. The association recommends that uniform forms of record be employed in all the clinics treating gonorrhea.

INSTRUCTIONS TO THOSE HAVING GONORRHEA.

You have a serious, contagious disease. It may continue for years after the discharge ceases and you seem well. Therefore you must not marry or have any sexual relations until a reputable physician has pronounced you cured.

A woman with this disease may become sterile, or be an invalid for life, or have to undergo a very serious and mutilating operation. A child born to a woman with this disease is likely to become blind.

For your own protection, and the protection of others, observe the following precautions:

1. Always wash the hands after handling the parts; the discharge, if carried to the eyes, will make you blind.
2. Sleep alone, and be sure that no one uses your toilet articles, particularly towels and wash cloths.
3. Never lend your syringe to anyone, and as soon as you are well destroy it.
4. Avoid all sexual relations and excitement.
5. Be sure that the bowels move every day. If constipated, take a laxative.
6. Do not use alcohol in any form, as it always prolongs the disease.
7. Drink from six to eight glasses of water a day.
8. Avoid all spicy food and drink, such as ginger ale, mustard, pepper, and horseradish.
9. So long as the discharge is free, walk as little as possible.

Complete history sheet forms for syphilis and gonorrhea are also made a part of the report for the use of any of the hospitals and dispensaries that want to follow them.

THE WAR ON TUBERCULOSIS.

Summary of Legislation of the Several States and Methods of Meeting the Problems.

It is a widely noted fact that the war on tuberculosis has not always been logically planned or adroitly carried on. There has been a good deal of hysterics about "the great white plague," however terrible the disease may be. It is only just now that there seem to be symptoms of a realization on the part of the public that there is no coherence of purpose and no system concerning the approaches to the problem, and a realization of defectiveness is the first step toward a cure.

The following abstract of a paper on the present status of the war on tuberculosis, read by Dr. Sumner M. Miller, of Peoria, before the Illinois State Medical Association, is timely because it recites what has been done in the several

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states, and at least by inference suggests a more orderly procedure:

"A scrutiny of various enactments shows a universal movement tending toward state and municipal control. Only five states have not taken some measures tending to limit the spread of the disease. The most striking fact revealed is that, while there has been much legislation directed against tuberculosis, not one state or community has adopted a broad and comprehensive plan for control. Legislative acts have been unrelated and haphazard, usually being directed toward the most apparent need. Some have been illogical or incomplete, as, for example, an act in force in Missouri, which provides that no person suffering from tuberculosis shall be employed in a bakery. Now, we find consumptives in every trade, among cigar makers, laundry workers, restaurant employees, and tailors. Moreover, there is obviously less danger of contracting tuberculosis from bakery employees than from other trades, or other sources of food supply, for, as the tubercle bacilli are killed by the heat of baking, the consumer is fairly safe from infection from this source. This law should be more comprehensive, and should have for its object the protection of the public—the consumer and the fellow employee of the affected individual—and should include all occupations in which there is danger to either group.

"Consider the legislation of Connecticut, a state that ranks as one of the most progressive in the state control of the disease. In 1901 an act was passed requiring the registration of cases and the disinfection of quarters that had been occupied by consumptives. In 1903 an appropriation was made for the establishment of a state sanatorium. In 1907 a tenement law was placed on the books with provisions for sanitation and prevention of tuberculosis. Having gone thus far, a commission was next appointed to investigate the causes, prevalence, and methods of prevention of tuberculosis. In 1909 a revised registration act was passed and an antispitting law was passed the same year. In 1910 an act was passed providing for the erection of county sanatoria at state expense, and in 1911 funds were appropriated for subsidizing private free tubercular hospitals. This is illustrative of the groping and haphazard character of legislative attempts at control. Heterogeneous, but uncorrelated, enactments, some good and some inadequate, constitute the efforts to control. Important gaps remain unfilled.

"Twenty-eight states have state sanatoria in operation, or in course of erection. Massachusetts has five, and two of the states have two each. Many municipalities have their own sanatoria in addition. Six other states provide for the care of indigent consumptives at state expense in private institutions. Twenty-two states and innumerable cities require registration and disinfection. Over half of the states have antispitting laws. None is so universal, and none is more universally disregarded. Seven states provide for the erection of county or city sanatoria, usually, as in Illinois, by referendum vote. In one instance it is mandatory on the county to provide separate sanatoria from the county hospitals for indigent consumptives, though any two or not to exceed five counties may unite to build a sanatorium. This provision is evidently designed to meet the needs of more sparsely settled districts. In one instance the state builds the county sanatoria at state expense. Pennsylvania has one hundred and fifteen county dispensaries, maintained by the state, and another state has nine county dispensaries. Two states prohibit the importation of cattle unless they have been tuberculin tested. Three states exclude tubercular school children from the schools, while some states and communities are providing open-air school rooms in all new school buildings, and in the old ones where practical. Three states provide for instruction in the public and normal schools in regard to tuberculosis, and several have traveling tuberculosis exhibits, and California has a state lecturer on tuberculosis. Many states issue educational literature. Two communities have advanced legislation empowering the board of health to commit a person suffering from tuberculosis, who, by his habits, endangers the public, to a sanatorium. Many municipalities as well as private agencies have visiting nurses and dispensaries. Besides these diverse enactments, there is a host of others, that bear indirectly on tuberculosis, as those relating to factory and tenement sanitation.

"This brief review of the status of antitubercular legislation shows how universal has been the movement to

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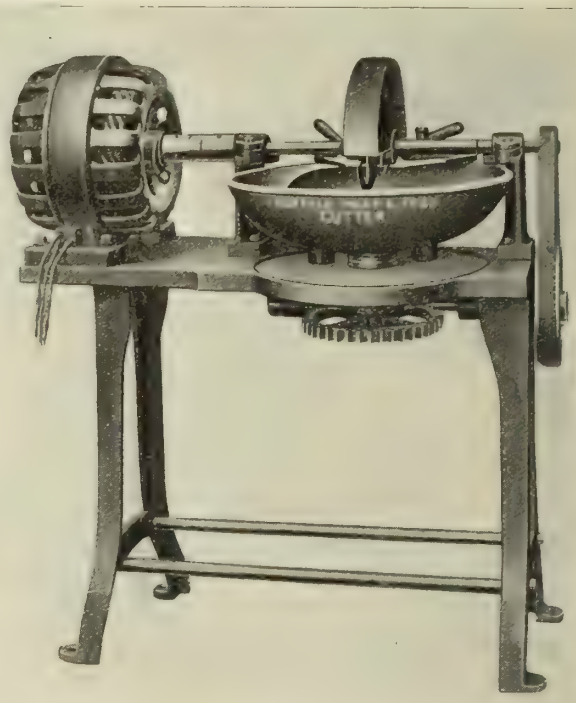

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Montreal General Hospital,	Montreal, Que.
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Sheppard & Enoch Pratt Hospital,	Towson, Md.
Peter Bent Brigham Hospital,	Boston, Mass.
Rochester State Hospital,	Rochester, Minn.
Mercy Hospital,	Chicago, Ill.
Sawyer's Sanitarium,	Marion, Ohio
General Hospital,	San Francisco, Cal.
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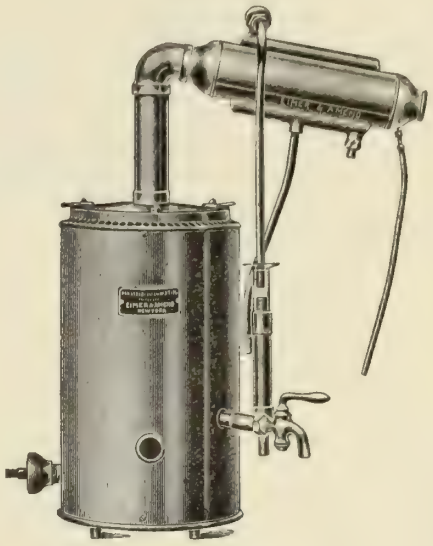

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control tuberculosis. It also demonstrates the absence of a complete program in any state. Heterogeneous acts, most of which are good, but uncorrelated, constitute the efforts of legislative bodies to control. While no plan will be elastic enough to meet the requirements of every community—for local conditions must be met—yet the essential principles of control remain fixed, and with alterations can be adapted to universal use. It is possible, from the mass of legislation, to weave this diversification of effort into a coherent and comprehensive plan to control the disease. Three objects are to be attained: first and foremost, the prevention of the spread of tuberculosis, the protection of the public; second, the cure of the afflicted; and third, the education of the public. The measures by which the first is accomplished fortunately are those that will also accomplish the second."

OUT-PATIENT WORK IN HOSPITALS.

Business Details and Scientific Methods Must Be Instituted if Success Is to Be Attained.

One of the valuable papers at the Boston meeting of the American Hospital Association was that read by Mr. Michael M. Davis, Jr., and which took the form of a report of the Committee on Out-Patient Work. Some pertinent points were submitted by the writer, to which the hospital people everywhere should give their attention, because it is becoming more evident daily that no hospital can do efficient work, covering the field allotted to it in this modern day, without an out-patient service, including dispensary and visiting nurse divisions. Mr. Davis tabulated his report into interesting topics, as follows:

AMERICAN HOSPITAL ASSOCIATION—SUMMARY OF THE REPORT OF THE COMMITTEE ON OUT-PATIENT WORK.

MICHAEL M. DAVIS, JR., Boston, Mass.

1. Out-patient departments and dispensaries in the United States have increased fourfold in number within six years, and at least 50 percent in the number of patients treated.

2. The use of the dispensary has increased in connection with certain phases of the public health movement, especially the prevention of tuberculosis and of infant mortality.

3. The out-patient departments are given relatively little attention by the medical and lay authorities of their hospitals. A detailed study of fifty-six annual reports of representative hospitals shows that the typical report does not even mention the out-patient department, except to cite brief statistics.

4. Facts furnished by seventy-six representative institutions show a lack of accepted standards of out-patient (1) organization; (2) record keeping and statistics; (3) clinical methods, including laboratory work as an aid in diagnoses.

5. Dispensary abuse—to provide higher standards of treatment for the 98 percent of applicants who are admitted is a more pressing present problem than the routine, though necessary, task of excluding the relatively few undesirables.

6. Cost and accounting—schedules secured show that out-patient expenditures can be segregated, though they rarely are; that the formulation of an outline for dispensary accounting would be practicable and valuable.

7. Some present problems and needs—(a) a permanent superintendent in responsible charge; (b) to what extent should the medical staff be paid? (c) the admission system—an opportunity to benefit patients accepted as well as to exclude patients "unworthy;" (d) the perpetually important chore of records; (e) efficiency tests of out-patient work as an aid in establishing dispensary standards and in continuous self-criticism—three practicable efficiency tests; (f) licensing and supervision of dispensaries by state or local authorities; (g) organized cooperation among the dispensaries of a city; (h) shall we favor a general program of municipal support and control of dispensary work—are we not responsible for establishing higher standards first?

8. Money needed for more efficient work—the securing

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of adequate funds from public authorities or private givers is likely to wait upon the establishment of accepted standards of out-patient work and the formulation of demands based on these standards.

9. The present time is opportune for a systematic attempt to ascertain and formulate such standards.

10. The American Hospital Association should appoint a committee of five for this purpose.

Sanatorium to Be Part of School System.

For a long time the education of children suffering from tuberculosis and confined in sanatoriums has been a perplexing problem everywhere. Recently the commissioner of health of New York city conceived the plan of asking the Board of Education to extend its educational work into the sanatorium conducted by the Board of Health. The matter was brought up by the following letter from Health Commissioner Lederle to the Board of Education:

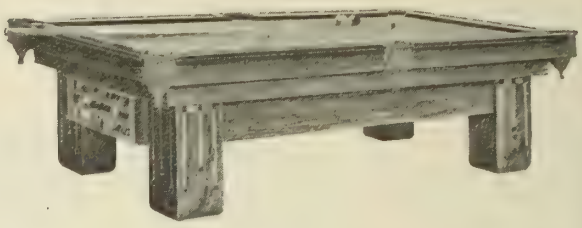
"In the tuberculosis sanatorium at Otisville, Orange county, New York, there are sixty-seven patients, male and female, between the ages of 18 and 20 years, and one hundred and thirty-four patients, male and female, between the ages of 4 and 17 years. The department has no facilities for giving school instruction to children over 14 years of age. We do give instruction to the illiterate who are especially anxious to learn, but we are not able to offer instruction to all patients between the ages of 14 and 17 years, as the institution is administered mostly by 'patient labor.' It has occurred to me that among the large number of school teachers under your jurisdiction there are some afflicted with tuberculosis, and that it might be possible, if the plan meets with your approval, to detail the necessary number of teachers to the sanatorium, where they would receive proper treatment and at the same time earn their salaries in instructing the patients."

This communication was referred to the Committee on Elementary Schools, and by them the matter was brought to the attention of the Board of Superintendents. On October 2 the Board of Superintendents adopted a resolution recommending to the Board of Education that three classes for tubercular children should be organized in the tuberculosis sanatorium of the Department of Health and that the same should be known as Public School 300, Manhattan. The committee, however, while approving of the plan for the instruction of children in the sanatorium, did not approve of the recommendation of the Board of Superintendents that these classes should be designated as Public School 300, Borough of Manhattan, for the reason that classes composed of children suffering from tuberculosis conducted in Bellevue Hospital and on the ferryboat "Southfield," under teachers appointed by the Board of Education, form annexes to Public School 14, Manhattan, and they deemed it advisable that the classes to be organized in the tuberculosis sanatorium should be made an annex of Public School 14. On October 8, in accordance with the recommendation of the Committee on Elementary Schools, the Board of Education adopted the following resolution:

"Resolved, that, in accordance with the request of Hon. Ernst J. Lederle, commissioner of health, and in accordance with the recommendation of the Board of Superintendents, three classes of children who are patients in the tuberculosis sanatorium of the Department of Health, Otisville, N. Y., be organized subject to financial ability, and that the same be made an annex to Public School 14, Manhattan.

"Resolved, that the Committee on Supplies be, and it is hereby, requested to furnish books and supplies for said classes."

Three buildings are now under construction for the state hospital at Pontiac, Mich., comprising an infirmary for men, a nurses' home, and a cold storage plant.



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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. II *January, 1914* No. 1

ARCHITECTURE AND EQUIPMENT OF THE NEW CINCINNATI GENERAL HOSPITAL.

Built for Business, the Main Idea Was to Embody Every Approved Essential for the Scientific Care of the Greatest Number of Patients at the Lowest Cost.

By H. E. HANNAFORD, Architect.

THE new general hospital is a municipal institution, maintained and operated for the benefit of the sick poor of Cincinnati. It is also affiliated with the medical department of the University of Cincinnati, and is used as a teaching hospital in connection with the municipal university.

For many years it had been realized that the present city hospital, located down town, at the corner of Twelfth street and Central avenue, had outlived its usefulness, it being too small to accommodate the necessary number of patients, and the buildings and equipment were worn out.

Dr. C. R. Holmes, with prophetic vision, foresaw that a new hospital would be needed, and he began an agitation for a new institution that would be modern in its equipment and efficient in its organization and management. He has been untiring in his efforts to give to the city an institution of the highest class, and it is due more to his efforts than to those of any other person that the city is now about to obtain the benefits of this magnificent institution.

The entire management of the building of the new general hospital has been placed with the hospital commission. The commission was appointed by the mayor and consists of Dr. C. R. Holmes, Mr. Harry L. Laws, Dr. J. M. Withrow, and Mr. Louis S. Levi. The mayor of the city, by virtue of his office, is president of the board. Samuel Hannaford & Sons, of Cincinnati, are the architects, and the work on the buildings is in charge of W. C. Jewett, resident engineer.

The original site of the new hospital was selected by a former commission under the leadership of Dr. Holmes. It consists of a tract of about twenty-seven acres, bounded by Burnet avenue, Goodman street, Eden avenue, and Bethesda avenue, in Avondale, one of the residential sections of the city. Since the purchase of the original tract, additional land has been acquired on the west and north, so that now the hospital tract consists of sixty-five acres. The additional ground thus acquired insures an open, park-like space around the hospital, so that it can never be closely built in, and at the same time gives room for additional buildings for hospital and medical school purposes, as may be required in the future.

This site is on a high plateau, removed from the heart of the business district of the city, but almost in the center of the territory bounded by the corporation line. The group has been planned in a way to take care of the future expansion of the institution. At present twenty-five buildings are completed, but space has been left for about twelve more buildings on the original site of twenty-seven acres, and arrangements made so that these can be connected with the present structures, power plant, etc., as the future growth of the city may demand.

The buildings now approaching completion are: administration building, receiving ward and outdoor clinic, seven ward buildings known as wards A, B, C, H, J, K, and N, operating pavilion, kitchen and dining hall, men's dormitory, detention ward, power and laundry building, disinfecting station, garage and stable, female dormitory, nurses' home, and pathological building.

On the northwest corner of the property a separate hospital group for contagious diseases is now built and occupied, consisting of administration

building, nurses' home, detention ward, and three ward buildings known as wards O, P, and Q. In addition to these three ward buildings, which are intended mainly for children's contagious diseases, there is also under way a separate building for special contagious diseases, such as smallpox. The site where this group of buildings now stands was originally quite rough, and a great amount of grading, cutting, and filling had to be done. The finished ground, however, has been brought to lines that accommodate the group of buildings most admirably. The administrative buildings and the wards occupy the higher part of the lot, the general surface of which has a slope of about 1 percent. The power and laundry building, pathological building, garage and stable, and disinfecting station occupy ground on a lower level toward the west, and will eventually be partially screened from view of the wards by proper parking and planting.

throughout. All buildings are as nearly fireproof as it is possible for human skill to make them. The foundations are of concrete, thoroughly waterproofed and underdrained, so that basements are absolutely dry. The exterior walls are built of brick, faced on the outside with a warm, brown-toned impervious pressed brick, and furred on the inside with hollow brick, thoroughly waterproofed. Trimmings are of white Bedford stone. Floor and roof construction throughout is of reinforced concrete, and the floors are mainly finished with tile, and all base is of terrazzo. Wood floors are used only in the bed rooms and parlors of the nurses' home, female dormitory, and interns' quarters.

The details of the interior finish in every part have been carefully studied. All angles are rounded, and everything has been done to make the buildings as cleanable and as nearly aseptic as possible. There is no interior trim or finish

Fig. 1. New General Hospital, Cincinnati—Ward buildings.

Burnet avenue, which forms the main frontage of the group, is about fifty feet higher than Eden avenue, which is the boundary of the tract on the west, but the planning of the buildings has been done in such a way that they are all connected by means of tunnels, porticoes, and covered ways, so that it is possible to go from any one building in the group to any other building entirely under cover.

In designing these buildings, the main purpose of their existence—namely, the care of the sick—has never been lost sight of. At the same time due regard has been given to planning for efficient and convenient service and easy maintenance. Nothing has been done merely for achitectural effect. The exteriors are very simple and plain, yet the buildings are well proportioned, dignified, and pleasing, and clearly indicate their purpose.

The very best construction has been employed

around doors and windows. All window stools are of marble. The base and door frames are set flush with the finished plastered faces of the walls. All door frames are of steel, and all passageways through the walls are provided with steel guard plates set flush with the plastering. Doors throughout are smooth and flush, without panels or moldings.

The plumbing fixtures are all of special design, made for this particular job, and are vitreous ware with benedict nickel trimmings. All pipe work in connection with the plumbing is of brass, and everything is readily accessible for cleaning or repairs. The heating is furnished by means of a hot water system, with forced circulation. Direct radiators are used, and room and ward ventilation is provided in all ward buildings by means of fans. A double system of fans is used, one for supply and one for exhaust. All air in-

troduced into the wards is thoroughly screened, washed, and humidified.

As much as possible the patients will be given the benefit of treatment in the open air, and all connecting porticoes and covered ways will be used for this purpose, and in each ward building the roof is used as an open air ward. These open spaces on the roof will be provided with awnings, and in the head house connected with each open air ward ample provision for toilet rooms, ward kitchens, and shelter space is provided. All of the porches, covered ways, and roof wards are paved with red quarry tile, and all flashings and sheet metal work throughout are of copper.

The administration building is placed nearest to Burnet avenue, the main thoroughfare on which the hospital fronts, and is the main feature of the group. In this building are located the offices of the superintendent and his assistants, the main business offices, record rooms, and quarters for the staff and interns.

for sleeping rooms for interns and house physicians. At the south end of the second floor a large suite is set aside for the superintendent. This, however, is a temporary arrangement, as it is the intention to build a separate residence for this official at some time in the future. In connection with the various sleeping rooms for interns and house physicians, recreation and sitting rooms have been provided on each floor, and liberal provision made for toilets, shower baths, and other conveniences. The central portion of this building is three stories in height. The north and south wings are two stories, and the roofs over these two-story wings will be used as roof gardens by the occupants of the building.

Directly in the rear of the administration building is placed the receiving ward. This is a one-story and basement building. For the present it will be used not only as an admitting and discharging building, but will be used also for outdoor clinic. A separate building will later be pro-

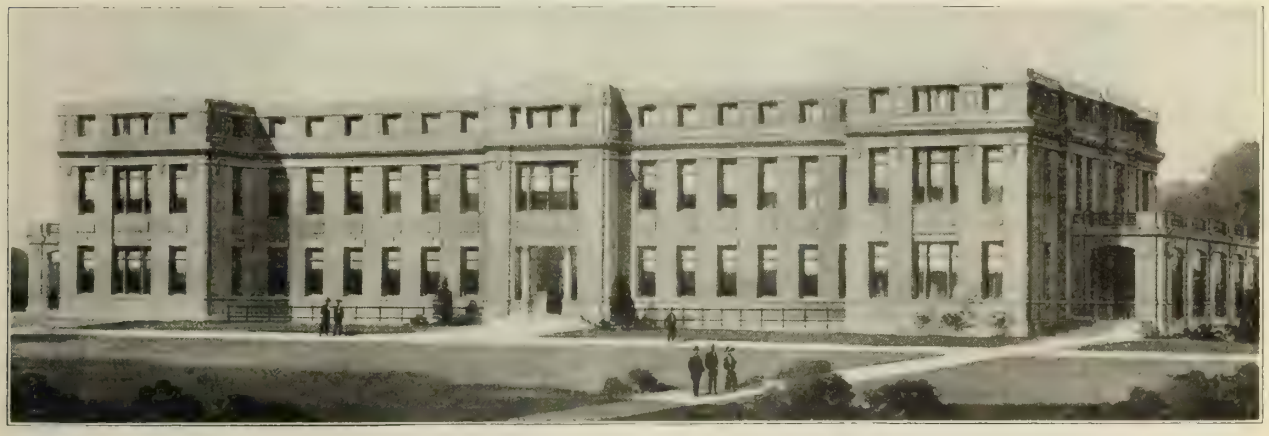

Fig. 2. New General Hospital, Cincinnati—Ward H.

At the south end of the first floor is a large library and reading room, in which will be housed a very valuable collection of reference books, now the property of the city. At the north end of the same floor is a lecture hall of moderate size, fitted up with preparation rooms and platform, in which the staff and medical societies will hold their meetings.

In connection with the main business offices are located the central telephone exchange and switchboards for signal service. All buildings, wards, and departments are connected with a system of intercommunicating telephones, and the signal system operated from this building will be used in keeping a record of the movements of the interns and nurses. The signal system used by the patients in communicating with the nurses in the various wards is not connected with the central exchange in the main building.

The upper floors of this building will be used

vided for clinic work. On the first floor are large waiting rooms for men and women, and consultation and examination rooms for the doctors. There is an ambulance porch at the front and also at the rear. The one in the rear is to be used for surgical cases that require immediate attention, and in connection with this rear ambulance porch is an emergency operating and sterilizing room.

In this building there is an office and vault, and here all incoming and outgoing patients will be registered, their clothing and valuables stored, and from here they will be taken to the ward to which they may be assigned. Proper facilities for bathing of patients and for disinfecting and storing clothing are provided. This building is also provided with two emergency wards, which may be used as recovery rooms or used by patients who are brought into the institution during the night, where they will be temporarily cared for until they can be removed to the proper department. In

connection with these wards are the necessary storage closets, nurses' rooms, and duty rooms.

The basement is given up almost exclusively to the care of the clothing of incoming inmates. Here is located a room with a sterilizer for the disinfecting of clothing, a room where clothing can be mended and properly cared for, and also a room especially designed for the treatment of sunstroke, poison cases, and other emergencies. From this receiving ward covered passageways lead to all of the ward buildings.

South of the administration building and fronting on Burnet avenue is located ward A. This is a two-story building, with a roof ward, and is designed for the smaller services. On the first floor will be located the colored male surgical wards and strong wards for police cases. On the second floor will be located the orthopedic department practically of the same arrangement, consisting of a head house, in which are located elevator, ward kitchen, ward dining room, treatment room, bathroom, sink room, toilet and wash room, linen room, and four small rooms for patients. The wards are approximately 30x90 feet and are arranged for 24 beds. At the south end of the main ward is a large solarium, the walls being mainly of glass, and here are also located toilet and sink room.

Ward B has on the first floor the colored male medical service, and the second and third floors are for the white male medical service. In ward C the first, second, and third floors are used for male surgical cases. Directly behind ward H are placed wards J, K, and N. Wards J and K are of the typical form, having three floors of wards and a roof ward. Ward J, first floor, will be used for female venereal cases, second floor for female

Fig. 3. New General Hospital, Cincinnati—Nurses' home.

and wards for the treatment of eye, ear, nose, and throat diseases.

North of the administration building and also fronting on Burnet avenue is located ward H. The first floor is divided into four separate and distinct departments, each one a complete hospital in itself. The corridors running through this floor are open to the outer air. Into this building will be taken the semi-contagious diseases. The first floor will be used as an observation ward for whooping-cough, mumps, erysipelas, etc.; the second floor for dermatology and male venereal diseases, the latter patients not being admitted to the grounds, but being confined to the use of the roof ward.

Directly behind ward A are wards B and C. These are of a type known as the typical wards. Each building is three stories in height, and the roof is used as an open air ward. Each floor is medical cases, and third floor for children's medical cases. Ward K, first floor will be used for female surgical cases, second floor for obstetrical cases, and third floor for gynecological cases.

Ward N is of a different type, having two stories and a roof ward. The services will be for psycopathic and neurologic cases. Here are fitted up small rooms for violent cases. These rooms will be closed, with outer and inner doors, and made as nearly soundproof as possible. Floors of these rooms are tiled and the walls lined with enamel brick, and arrangements are made so that they may be thoroughly flushed and cleaned out as occasion may require. In the basement of this building will be located the apparatus for hydrotherapeutic treatment.

In all of these ward buildings the elevators and stairs are inclosed in separate towers and thoroughly isolated from each floor, so that there is

no direct connection between wards that are placed one above the other. This feature has been strictly carried out in all parts of the buildings. Wherever it has been necessary to put in a clothes chute or similar passageway vertically through the buildings, they have been kept separate and distinct for each floor, and every effort has been made to forestall cross-infection. The wards named are those now approaching completion. Space has been left on the grounds for the building of a number of additional wards, which will be erected as the demand may require.

The contagious hospital, located at the northwest corner of the grounds, is now built and occupied, and the three wards O, P, and Q are, in general, planned along the same lines as the typical wards described above. These buildings, however, are only two stories in height. The wards are somewhat smaller, having a nominal capacity of 16 beds each. Along the central axis of the

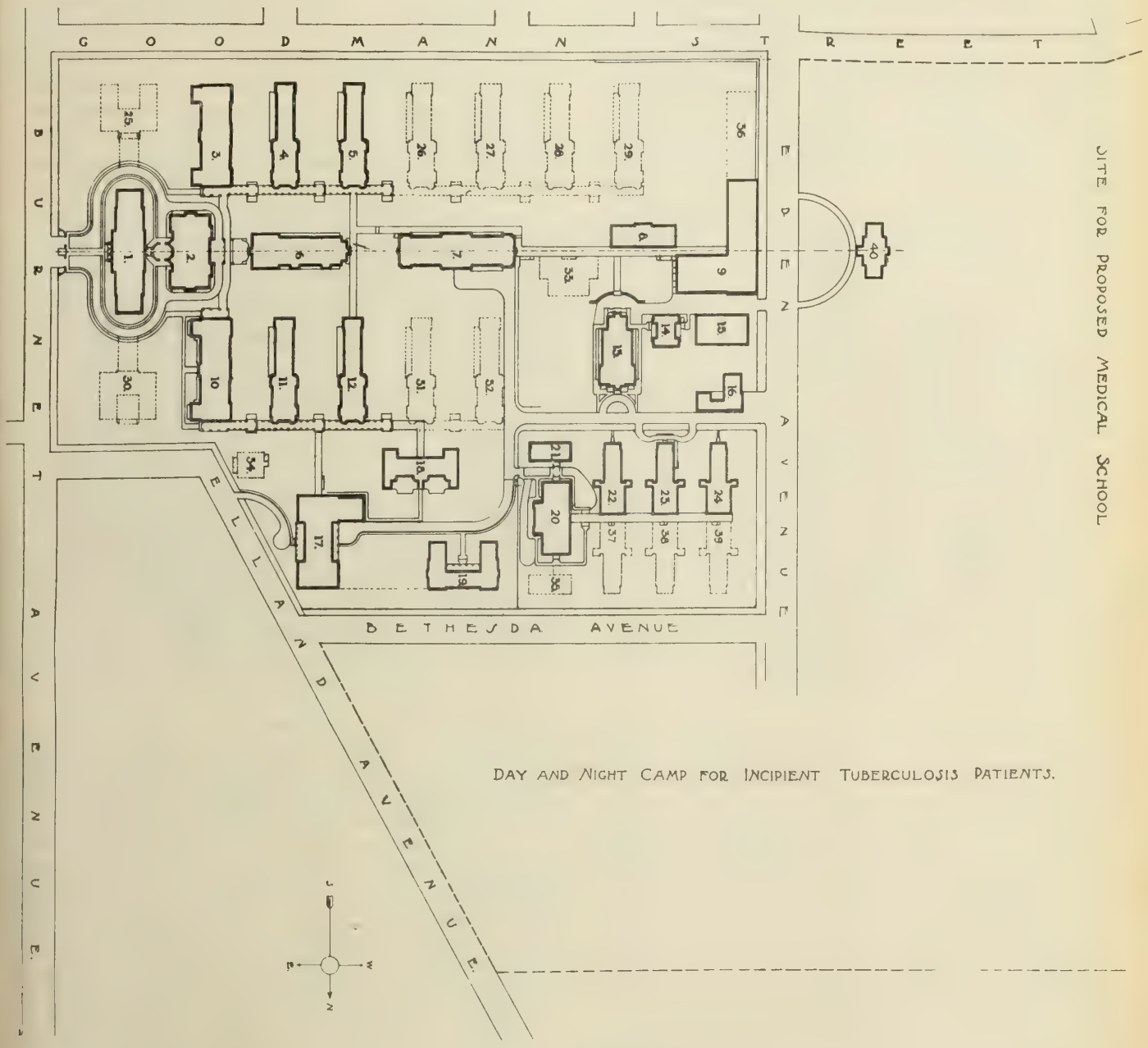

Fig. 4. New General Hospital, Cincinnati—Block plan.

1, administration building.
2, receiving ward.
3, ward A.
4, ward B.
5, ward C.
6, operating pavilion.
7, kitchen and dining hall.
8, male dormitory and linen room.
9, power and laundry building.
10, ward H.
11, ward J.
12, ward K.
13, pathological institute and chapel.
14, detention ward.
15, disinfecting station.
16, garage and stable.
17, nurses' home.
18, ward N.
19, female dormitory.
20, administration building of contagious group.
21, isolation ward.
22, ward O.
23, ward P.
24, ward Q.
25, pay ward.
26, ward D.
27, ward E.
28, ward F.
29, ward G.
30, clinic.
31, ward L.
32, ward M.
33, gymnasium and bath house.
34, superintendent's residence.
35, private ward.
36, coal yard.
37, ward R.
38, ward S.
39, ward T.
40, special contagious ward.

group and directly to the west of the receiving ward is located the operating pavilion. In this building provision has been made for five operating rooms, two on the first floor and three on the second. These rooms have the necessary adjuncts of etherizing rooms, sterilizing rooms, nurses' work rooms, etc., and on each floor rooms are provided for the operating surgeons and the nurses on duty, with ample toilet facilities.

In this building is located also a work room for the nurses, where bandages and supplies may be prepared, and provision has been made for the accommodation of a limited number of students who may be admitted to the operating rooms, this provision being in the nature of bath and toilet rooms. In the basement of this operating pavilion, nearly above grade line, is located the drug room and its store rooms, and here is located also the x-ray department, with photographic rooms and dark rooms.

At the east end of the building a section is devoted to the use of the students. Here is a large amphitheater to be used as a lecture and demonstration room, with rooms for the reception and treatment of patients, and a lounging room and lunch room for students. This section of the building is cut off entirely from the operating portion of the pavilion, there being no communication between the two.

On this central axis of the group and west of the operating pavilion are placed the kitchen and dining hall. They will be almost in the exact center of the completed group, and are well located to serve the various wards. This building has a basement and one story. In the basement are located the storekeeper's office and receiving room, with a series of store rooms, and here ample provision for the cold storage of meats, milk, eggs, butter, and similar supplies is provided. Here will be located also the tank for the making of ice, and room is provided for its storage. In this basement is located the apparatus for the pasteurizing and care of the milk supply, and a large space is devoted to the sterilization of food boxes used by the patients.

On the first floor are located the main kitchen and bakery, where all the cooking for the institution will be done. Here will be also the dining room for the officers, interns, and male and female help. The nurses, however, will have a separate kitchen and dining room in connection with the nurses' home, but all other persons in connection with the institution will take their meals in this building. Immediately adjoining the main kitchen a special diet kitchen is located. Here the nurses will be trained in the scientific preparation of foods, and here the special diets will be prepared.

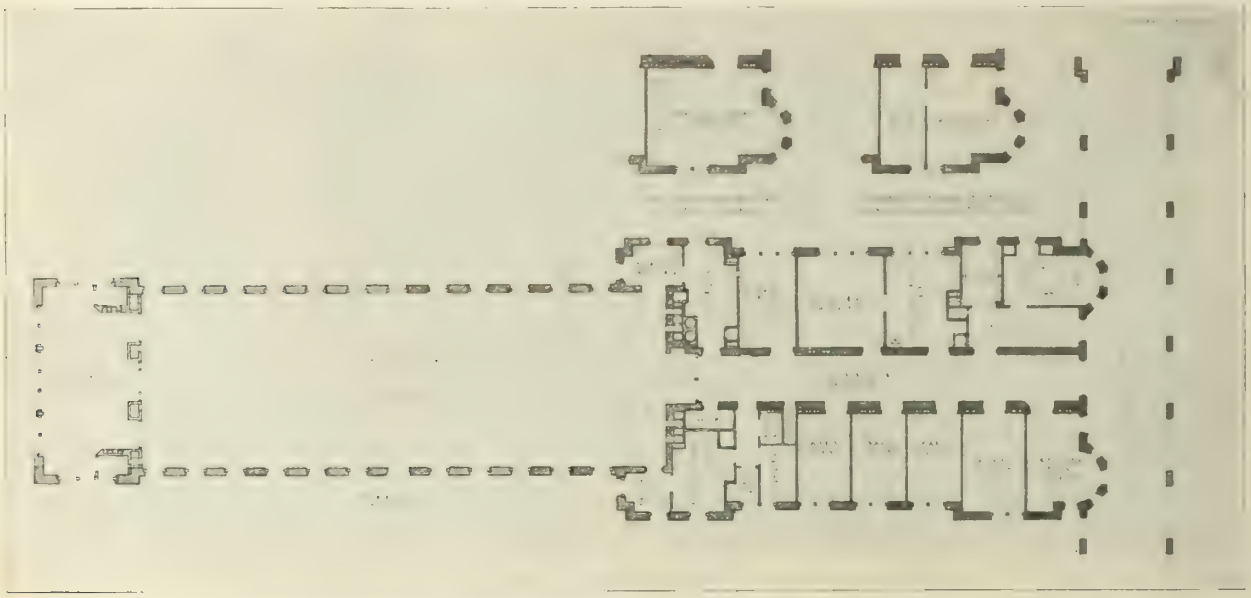

Fig. 5. New General Hospital, Cincinnati—First floor plan; typical ward building.

On Eden avenue, on the west front of the site, are located the laundry and power house. The lower story of this building is on the level of Eden avenue. The second floor is on the level of the tunnels or passageways that lead down from the group of ward buildings.

In the boiler room provision has been made for a battery of twelve boilers, six of which are now installed. These are "B. & W." water tube boilers of 260-horsepower capacity each. In the wing running eastwardly from the boiler room is the main engine room, and the equipment in this room will consist of three units of Corliss high-speed engines, directly connected with 250-K. W. generators. In this room will be located also the switch-

board, air compressor, and the refrigerating machinery. Electrical current will be used for all light and power throughout the group of buildings.

The refrigerating machinery will have circulating lines carried to the cold storage rooms in the basement of the kitchen and to the ice-making tank in the same building, and carried also to the cold storage boxes required in connection with the pathologic building. It is not the intention to cool the small refrigerators in the various ward buildings with this system, and these small refrigerators throughout the group will be supplied with ice.

The air compressor located in the engine room will have supply lines carried to the various operating rooms, treatment rooms, etc. The lines will be carried also to the pathologic building, for use in the various laboratories, and to the laundry, to be used in connection with certain special laundry machinery requiring air pressure.

As a rule, all the elevators in the various buildings will be operated by electricity, supplied from the engine room, these elevators being arranged for push-button control. As far as possible, economy of operation and maintenance have been kept in view throughout this entire mechanical equipment.

In the second story of the power house is located the main laundry. This is divided into two parts, one part being for the care of the clothing of the patients and the other part for that of the officers, interns, and nurses. This laundry is thoroughly equipped with the most modern machinery, having large dry rooms, with rooms for the marking, sorting, and care of the linen, and ample toilet and rest rooms have been set aside for the help employed in this department.

On the second floor, above the engine room, are the machine shop, carpenter shop, paint shop, mattress shop, etc., all of which are properly equipped with machinery and supplies to care for the repair and maintenance of the buildings and equipment.

Directly east of the power and laundry building, and on the line of the main covered passageway leading from the wards, is located a small building with basement and one story. The basement, being on the level of the main covered way leading to the laundry, is given over entirely to the storage and care of the linen. The first floor is the dormitory for the male help employed about the institution. This floor is given up mainly to bed rooms, and is equipped with generous toilet and bath rooms, and has also a large sitting or recreation room for the occupants.

On the low ground north of the male dormitory, and connected at right angles with the main covered way leading from the wards to the power house, is located what is known as the pathologic building. This building has a basement and five floors. It will be given up almost entirely to research work and to the use of the student body connected with the institution. In the basement are located the refrigerators for the care of bodies, and a room has been provided for the coroner and undertaker, and also a room where autopsies may be performed.

At the north end of the building on the first floor is the chapel, where funeral services may be held, and connected with this chapel private rooms, with toilets, for the minister and for relatives and friends have been provided. The balance of the first floor is given up to the offices of the professor in charge, and here will be located also the library, reading room, and private laboratories. The second, third and fourth floors are mainly used for laboratories for research work. Special rooms have been provided for photographic and microscopic work.

At the north end of the building, over the chapel, is an amphitheater or lecture hall for the use of the students, and above this, on the fourth floor, a large space has been set aside for a museum. The fifth floor is built above the general roof level, and is divided into a number of small rooms and yards for the care of animals. On this floor are the feed room, store rooms, and the animal operating and sterilizing rooms. The work to be carried on in this building will be of the greatest scientific value, and will be under the direction of Dr. Paul G. Woolley.

West of the pathologic building is a small one-story building known as the detention ward. The name sufficiently describes its purpose. It is divided into four small hospital units, each unit consisting of a room for the patient, a room for the nurse, a small kitchen and duty room, and a toilet and bath room. Separating these units are open air corridors, in connection with which bath and dressing rooms for both incoming and outgoing patients have been provided.

North of the power house and facing on Eden avenue are two small buildings. One of these, now being used as a temporary power house for the contagious group, will be remodeled and used for a disinfecting station. The other is a small building known as the stable and garage, where the ambulances will be kept, and also all vehicles and tools of every description used in connection with the hospital service or in the care of the grounds. In this building bed rooms and bath and sitting rooms have been provided for the interns who may be on duty in connection with the ambulance service. It also has a small repair

shop designed for the care and maintenance of the automobile ambulances and other vehicles.

The nurses' home is located at the corner of Bethesda and Elland avenues, at the northeast corner of the grounds. This situation is retired and away from the noise of the traffic on the main thoroughfare. It has a basement, four stories, and a roof garden, and is connected through the covered passageways with all the wards and administration buildings, so that it will be possible for a nurse to go from the nurses' home to any building on the grounds entirely under cover.

This building occupies sloping ground, so that the rear portion of the basement is entirely above the grade. In this basement is located the office for the matron, with the mail boxes, telephones, and record boards. The rear part of the basement is given up to bed rooms for the servants employed about the house, while the front portion is used for the storage of trunks. This basement is provided also with a gymnasium and a small laundry, where the nurses will have the opportunity of caring for certain special articles of clothing should they so desire.

On the first floor is located the entrance hall, library, parlors, and dining rooms, together with the business office of the head nurse, and in the rear wing are the kitchen, storage rooms, and servants' dining rooms. As before mentioned, the nurses do not take their meals at the main dining hall, but the nurses' home is complete within itself for all living purposes. On the first floor several rooms are devoted to the educational work of the nurses. The library will be used for a lecture room, and here is located also a demonstration room, reading room, and a laboratory for the teaching of certain special work.

Above the first story the second, third, and fourth floors are used for sleeping rooms. Each sleeping floor has a large sitting room, used for the purpose of recreation by nurses. On the second floor private quarters for the head nurse and her assistants are provided. The suites will each have private baths and toilet rooms. A large general toilet and separate bath room is provided on each floor for the use of the nurses. On each floor is also a small room set aside to be used as a tea kitchen.

The roof of the building will be used as a roof garden, with a large inclosed shelter house over the central portion. Here it will be possible for the nurses to take recreation in the open air at any time, and where they may appear *en deshabille* should they so desire.

The sheltered portion of the roof garden will be used also for those who may desire to sleep in the open air. In this building great attention has been given to the comfort and well-being of the nurses, so that it will be in the truest sense a home, where rest and recreation as well as instruction may be had.

West of the nurses' home, and facing on Bethesda avenue, is a building used as a female dormitory. Here will be housed the female servants, stenographers, telephone operators, and all women employed around the institution, except the nurses. In its main features this building is a duplicate of the nurses' home, except no kitchen or dining room is provided, as the occupants of this structure will be required to take their meals in the main dining hall building. The various floors in the building are given up to bed rooms, and each floor is provided with a large sitting or recreation room, and in this building is also a private suite with bath for the housekeeper.

The equipment of this hospital will be of the most modern type and of the best possible quality. In each ward a signal system has been installed by which each bed is connected directly with the head nurse's station, and signals are registered by means of flashing lamps.

The matter of the disposal of garbage and waste of every kind has been carefully studied. In each ward kitchen, and at convenient locations in all other buildings, gas incinerators are placed, so that all waste material of whatever nature can be immediately destroyed at its source. In the power house is a large crematory, where bulky waste material may be disposed of.

There are many features of construction and equipment worthy of notice that cannot be described in a brief article such as this, but it is certain that the results achieved will make this institution one of the notable hospitals of the world.

The commission, under the leadership of Dr. Holmes, has given years of unselfish service to this work without compensation. Every detail has been given the most careful and painstaking study and the completed work stands as an enduring monument to their fidelity and wisdom.

The Mote in a Brother's Eye.

When we asked for legislation last winter, did you feel the kick? In the last general election the physicians shaped Kansas history; but we failed to get protective legislation for the people. We were not trusted. It was believed by too many that we were covertly seeking our own advantage. We were not, but the result was the same; instead of a beneficent law, we got the laugh of sectarians, quacks, and fakers. Why were we flouted? Because the petition we presented was soiled by our own hands, which were not lifted against the patent medicine orgy. We essayed rather to pluck the mote out of a brother's eye.—Paragraph from an address by Dr. Noah Hayes, of Seneca, Kan., on "Irresponsible Medicine."

PLANNING FOR PRIVATE PATIENTS.

Hospitals for Paying Patients Exclusively Not Desirable—The Consideration Due to Private Patients—Architectural and Administrative Requirements.

By S. S. GOLDWATER, M. D.

SUPERINTENDENT MT. SINAI HOSPITAL; MUNICIPAL EXPERT IN HOSPITAL CONSTRUCTION IN THE DEPARTMENT OF BELLEVUE AND ALLIED HOSPITALS OF THE CITY OF NEW YORK.

ONE of the problems that must be faced in the planning of nonmunicipal hospitals in this country is the provision of suitable accommodations for private patients. In a sense, this problem is peculiarly American. English writers on hospital construction have hitherto ignored the problem, and properly so, because its consideration would have had no practical interest in a country where general hospitals, whether supported by the state or by voluntary contributions, have thus far, with rare exceptions, concerned themselves wholly with the care of nonpaying patients.

The planning of establishments for the exclusive care of paying patients is a subject which will not be dealt with in the present article. The omission of this problem is intentional, for the writer is opposed in principle to the maintenance of strictly private hospitals, or what in England would be termed "nursing homes." It is conceded that conditions may exist in certain localities that necessitate the temporary establishment of hospitals of this type, but such conditions must be regarded as abnormal and as contrary to the best interests of the community. The need for the private hospital does not exist where there is a hospital system in which the hospital unit is a complete general hospital, designed for the care of all social and all medical classes, and equipped with the varied and costly means of combating disease which are today essential to hospital efficiency, and which are entirely beyond the reach of private nursing homes.

In order to appreciate the difference between what can be done for private patients in hospitals of a strictly private character, and in general hospitals which conduct departments for private patients, one need only compare one of the better private hospitals in New York City with the private pavilion of a representative general hospital. The difference between the clinical, scientific, and nursing resources of the two is striking, and leads to the conclusion that, if one wishes to plan in the best possible way for private patients, he will not plan a strictly private hospital at all. The problem presented is, therefore, that of planning for private patients in a hospital which treats all social classes.

In planning for private patients in a general hospital it is proper to consider the reasons of policy which prompt hospital trustees to make provision for this class of patients. Voluntary hospitals are established, in the main, for philanthropic purposes. If so, why devote to the care of patients who are able to pay their way any part of the capital, energy, and attention which are available? Why not permit such patients to shift for themselves?

In reality the care of private patients in benevolent institutions is entirely consistent with the purpose of such institutions. In the first place, if the private patients' department is planned with due consideration of the kind and quantity of support that is likely to be given to it, it becomes not only self-supporting, but it may be so administered as to yield a profit, and the surplus thus earned can be devoted to charity. To be sure, this argument, nakedly applied, might be held to justify any sort of profitable business undertaking as a hospital side-line. But the whole argument has not been stated. While it is true that departments for paying patients may be made self-supporting or even profit-yielding, it is not solely or mainly for this reason that such departments are included in general hospital plants. The failure of such departments to support themselves might justify their exclusion on financial grounds, but the mere fact that they are profitable does not justify their presence, although it makes their existence consistent with sound business administration. It is the indirect rather than the direct returns from departments for paying patients which, in the main, justify their presence in general hospitals. The experience of hospital administrators tells them that by means of private departments persons of large means have frequently been brought into contact with the hospital for the first time, and that knowledge of the beneficent character of the institution thus gained has led to large donations for the support of its charitable work.

Again, if the members of the attending staff are enabled to care in a single establishment not only for patients to whom their services are given gratuitously, but also for paying patients, the saving in time and energy which results brings advantages to their poorer patients. Doctors, like everybody else, are obliged to live on twenty-

four hours a day, and, if their patients are scattered throughout the city, the amount of time which they can spare for gratuitous hospital service is necessarily restricted. Place all their patients, of whatever social class, under one roof, and the poorer patients will receive a more generous allowance of time and attention than would otherwise be possible.

Furthermore, it is by no means an accident that, taken as a class, hospitals which care for both paying and non-paying patients are better built, better equipped, and better organized than hospitals whose work is wholly charitable. The presence of exacting private patients stimulates efforts to discover the best way of doing things regardless of cost, and, while cost cannot be excluded from consideration in the care of patients who do not pay their way, there is nevertheless, in a given hospital, a tendency toward the creation of a single standard of surgical technic, of therapy, and even of nursing care. And so, to an extent which varies with the resources and the benevolence of the hospital, ward patients in a socially mixed hospital profit by modes of treatment and care the discovery and application of which are superinduced by the presence of private patients.

Another benefit which general hospitals derive from the presence of private patients is to be found in the opportunity which is thus afforded to round out the training of pupil nurses. Nurses are, or should be, trained for work among all social classes. Those who aim at private nursing rather than institutional careers require, as part of their pre-graduation experience, contact with patients of the class by which they will be chiefly employed after graduation. In this sense the training of pupil nurses in hospitals where private patients are not cared for is incomplete and unsatisfactory. Conversely, the training of nurses for work in the tenements, etc., is quite impossible in a strictly private hospital.

The most important of all considerations which may reasonably determine the inclusion of a department for private patients in a general hospital is the fact that it is practically impossible, from the standpoint of expense, organization, and management, to provide in a strictly private hospital all of those means of scientific investigation and of therapy which can be provided on an economical basis only in a large institution, where the unit cost of a given utility is reduced by the large area covered. It is only a large hospital that can command the services of highly trained pathologists and of other special workers whose cooperation in the treatment of the sick has become indispensable to efficiency. Therefore the wish to deal fairly with the rich as well as with the poor commands provision for the care of private patients in general hospitals. By omitting such provision a community places itself in the attitude of offering to the poor opportunities for the restoration of health which are denied to the well-to-do.

In the classification of hospital patients from a social standpoint the first broad distinction to be made is that between paying patients and non-paying patients. This article deals with the former group, but not with the latter. In hospital administration the necessity arises of subdividing paying patients into two classes—namely, those who are able to afford treatment in private rooms, and those who cannot afford the superior comfort of single rooms, and who must content themselves with the semi-privacy of intermediate wards.

Semi-private or intermediate wards may be wards of 2, 4, 6, or more beds. Patients who seek this class of accommodation expect that some distinction will be made between the privileges accorded them and those which are granted to the occupants of beds in the public wards; but the principles of ward planning which are applicable to intermediate wards do not differ essentially from tsose which govern the layout of public wards.

It is important to remember in this connection that the semi-private patient is drawn from the middle or lower middle class. As a rule, such patients pay from $10 to $20 per week. It would be a mistake, therefore, to provide for them accommodations so elaborate as to require an outlay for maintenance of $4 or $5 per day. Hospitals have established and have abandoned intermediate wards because of initial blunders in planning. In one instance semi-private wards were included in an elaborate pavilion designed primarly for occupancy by persons of the well-to-do class. The diet supplied to the intermediate patients and their treatment in general were on a par with those of occupants of expensive rooms, the sole distinction between the private and semi-private patient being that the former occupied a single room, while the latter shared a small ward with one or two other patients. Within a short time it was found that the semi-private patients were costing the hospital more than they paid. The privileges of the semi-private patients were then restricted, and an attempt was made to substitute a more economical form of service, somewhat akin to the service provided for ward patients generally. Great dissatisfaction resulted, and ultimately the hospital, stung by the unreasonableness and ingratitude of its semi-private patients, abandoned the department entirely.

This unfortunate outcome was the result of an initial mistake in planning. The semi-private patients should not have been placed where and as they were; they should not have been encouraged, as they undoubtedly were, to compare themselves with private room patients, to their own disadvantage. Their surroundings should have suggested to them the comparison of their lot with that of the ordinary ward patient. The semi-private patient who observes that he is being treated somewhat better than his less fortunate nonpaying or part-paying neighbor is pleased with his good fortune; on the other hand, the patient whose attention is drawn to the fact that his treatment is not quite so fine as that of his neighbor is made unhappy by the comparison. Hence semi-private patients should not be placed too close to private patients. Their diet service should be arranged, preferably, in connection with the diet service of the wards. Where the hospital has two entrances, one for ward patients and another for private patients, the former entrance, rather than the latter, should be used by semi-private patients. If a distinct building or department cannot be provided for semi-private patients, and if these patients must be grouped with either private patients or ward patients, the latter arrangement should be chosen.

In distributing the patients of a general hospital, the sexes are, of course, segregated as far as ward service is concerned, and in the larger and better regulated hospitals distinct allotments of space are made to surgical cases, to medical cases, and to the various special clinical departments. So elaborate a classification is not feasible in the private patients' department of a general hospital. Not long ago, in the planning of a hospital which promises to become one of the most notable general hospitals in America, the preliminary studies showed a building for male private cases and another for female private patients; in each building surgical cases were to be cared for on one floor and medical cases on another. The plan was perfectly symmetrical, but, from an administrative standpoint, impossible. When it was pointed out that the proportion of male and female cases would change from time to time, and that the demand for rooms for medical patients would seldom, if ever, equal the demand for surgical cases, the plan was abandoned, and arrangements were made to care for any kind of patient in any room at any time, thus rendering possible the maximum use of the plant at all times. The only change of plan required was the provision of toilet accommodations for both male and female patients on each floor of each building.

The proper location, in a general hospital, of children of the private class is a debatable question. Where no special provision for small children is made, complications arise. A crying child is an objectionable neighbor to the adult hospital patient, and therefore cannot conveniently be accommodated in the average private room, which, despite precautions, is not quite soundproof. Wherever possible, it is therefore desirable to make special provision for infants and for children of tender age apart from adult patients, and preferably in proximity to the children's building or children's ward. Some of the rooms should be large enough to accommodate mother and child; others may be arranged with a mother's room and bath between each pair of children's or infants' rooms. In a children's hospital recently constructed, there is an adult bath connected with each private room, which provision, while evidencing a thoughtful appreciation of the special needs of a private hospital for children, is extravagant.

The adult private patient who enters the hospital is only occasionally accompanied by a member of his family. Some provision for guests must nevertheless be made in any hospital which accommodates a considerable number of private patients. The equipment of a guest room need not be essentially different from that of a room intended for a patient, and where suites of rooms and private baths are provided there is no difficulty about accommodating a member of the patient's family as a paying guest of the hospital.

The suggestion that accommodations for children of the private class be arranged apart from the general private building or private corridor, and in connection with the hospital's pediatric department, brings up a fundamental question in hospital planning. It has already been stated that children should be separated from adult private patients, because they are or may be objectionable neighbors to sensitive adults. Another reason which applies is that the special equipment of a children's hospital (infants' baths, milk preparation room, wet nurses' rooms, etc.) should be available, without duplication of plant, for the care of paying children as well as for that of children treated gratuitously. To the pediatrician the proposed arrangement will be particularly grateful because it will concentrate all his patients, both public and private, in a single locality, an arrangement which to him represents a maximum of convenience. We must consider whether the principle here involved is not susceptible of wider application; for if the convenience of the pediatrician and the welfare of his patients are thus served, does not the same argument apply to patients and doctors of other classes? For ex-

ample, would not the surgeon in a large general hospital welcome the placing of all his private and ward patients in close proximity to each other, and might not the patients themselves benefit by such proximity? And does not the same hold true of medical cases, of gnyecological cases, of neurological cases, etc.?

The question just propounded is not of mere theoretical interest. In preparing the plans for a general hospital the architect consulted the heads of various clinical departments as to their preferences, and each one proposed precisely such an arrangement as has just been described. When the plans were submitted to the writer it was noticed that the hospital was not divided into departments for public and private patients, but into departments of medicine, of surgery, of gynecology, etc., in each of which there was included both public and private patients. The visiting staff argued that such an arrangement would enable them to conserve their time, an argument which could not be gainsaid. On the other hand, it was obvious that it would be extremely awkward to the management if, at any given time, the surgical rooms being fully occupied, and the medical rooms being half occupied, a surgical patient should apply for admission to the hospital. A patient belonging to the surgical staff could not be accommodated in the medical wing without infringing the rights of the medical staff. Furthermore, the medical wing was planned in such a way that its relation to the operating rooms, etc., was not favorable to its use for surgical cases.

Again, if the grouping proposed by the staff were adopted, there would have been no distinctive entrance and reception room for private patients and their visitors; contact with ward patients and with the visitors of ward patients would have been unavoidable. Furthermore, the dietary service of private and ward patients would have become confused, and the concentration of the trays of all private patients at a single headquarters, and their supervision by a single competent person, would have been impossible. These considerations led to the abandonment of the plan, and to the substitution of the scheme more commonly followed—namely, the concentration of all of the adult private patients of the hospital in a single center. The architect, however, was urged not to forget the principle involved in the suggestion made by the physicians that all of the patients of each man be grouped in a single locality. In other words, while in the modified plan private and ward patients were housed distinctly and separately, the main surgical plant, for greater convenience, was located midway between surgical wards and private rooms; and with the same idea of double service in mind, the department of roentgenology, the cystoscopy room, the dark room for throat work, the rooms for electrotherapy and hydrotherapy, the delivery or obstetrical room, the nursery for the new-born, etc., were made accessible from both public and private departments. In this way convenience was consulted, while duplication of plant was avoided.

Unless the hospital is a very large one, the use of a single surgical center, as in the hospital just referred to, is desirable. Where, however, the number of private patients exceeds 50, a separate surgical plant is consistent with reasonable economy of administration. It is important to bear in mind that operating rooms occasionally require renovation. If, therefore, the private pavilion with its operating plant is wholly divorced from the general hospital plant, and if the surgical center of the main hospital is not comfortably near the private rooms, awkwardness will result when the private operating plant is undergoing renovation. For this reason it is preferable, even when special rooms are set apart for the surgical treatment of private patients, to place such rooms in proximity to the main surgical center, so that the two groups of rooms may be used interchangeably when necessary.

In some hospitals only staff surgeons are permitted to operate on ward patients, while the use of the private plant is open to the profession generally. In such hospitals the regular house staff may assist surgeons who are nonmembers of the staff, or the latter may be obliged to furnish their own assistants. In a hospital where the latter system prevails it is especially desirable to provide separate operating rooms for private patients.

The larger the number of visiting surgeons concerned in the treatment of a given number of surgical cases, the greater the number of operating rooms required. One active surgeon may be able to dispose of six or eight cases in succession in one room at a single session. The same number of cases, operated on by six or eight different men, would require at least one extra room. The administrative system is therefore a factor in determining the number of operating rooms.

The organization of the house staff has an important bearing on the location and grouping of operating rooms. In staff hospitals, where all of the surgical work is done by the regular visiting staff, assisted by the regular house staff, a single operating center is clearly indicated. If the private patients' service is large enough to justify the assignment of a special group of residents to that department, separate operating rooms become practicable from this standpoint. A hos-

pital plan for private patients, therefore, may presuppose a single group of residents serving all departments of the hospital, or a double group of residents, one group serving the private patients' department and another the wards. In general terms, it may be stated that, if the number of private patients in a general hospital exceeds 50, and if the number of ward patients is such as to require all or nearly all of the time and attention of a group of interns as ordinarily organized, it is best to assume, in planning the hospital, that the private patients will sooner or later come under the care of a separate group of resident officers. This assumption would affect the location of the operating rooms and the number and location of interns' rooms. Other things being equal, it is desirable to place the interns in a single building, close to the administrative center; their quarters should not be distant from the wards which they serve, but should at least be far enough away to give them a sense of freedom when off duty. In a very large hospital, with a private pavilion relatively remote from the administrative center, it may be desirable to make provision for the housing of the residents who are to care for the private patients, quite apart from that of the interns whose duty lies in the wards. Private patients are most exacting in demanding the prompt attendance of the residents, and trouble will be avoided if the latter are so placed that they may respond promptly and conveniently to patient's calls.

Hospitals which offer the use of their facilities to private patients for minor operations, without requiring such patients to engage private rooms, should provide recovery or rest rooms for temporary use. This is particularly important in the case of hospitals which are very busy and which have no spare rooms that can be utilized for this purpose. Nowadays private patients come to hospitals not only for minor surgical operations, but for special examinations of the bladder, stomach, and other organs. These inspections and examinations are often exhausting, and after the ordeal the patient may require rest for several hours.

In general hospitals which conduct training schools for nurses the nursing in the private department is for the most part intrusted to pupil nurses. These nurses in training are, or should be, under the supervision of graduates, and both pupils and graduates should be housed in the nurses' home, and not in the private patients' building. The use of "special" nurses who are nonresidents of the hospital, however, is very common. Fifty private patients may employ, in addition to the regular staff of pupil and graduate nurses, from thirty to sixty special nurses, counting both the day and the night force. For these "specials" suitable provision must be made in the way of locker and dressing rooms. A central locker and dressing room for their use may be placed either in the nurses' home, to which these nurses must repair for their meals, or, if the nurses' home be distant and crowded, locker and dressing rooms can often be provided in the basement of the private pavilion. This room should be spacious, and should have the customary toilet accommodations.

Where special nurses are employed in great numbers it is also desirable to provide places where they may assemble when they are excluded from their patients' rooms. It is not an infrequent thing to find, on a floor accommodating 16 private patients, five or six special nurses who must remain on the floor, subject to call, but whose presence is not desired in the rooms of patients who are receiving visitors. If a retiring room is not provided for these special nurses, they are forced to gather in the corridor, where, despite all rules and regulations, they will annoy nearby patients.

It is only in the most elaborately constructed private hospitals that special toilet accommodations are provided for nurses on floor duty. Such provision is everywhere regarded as a necessity in connection with ward service, but the need is doubtful in a private pavilion, where the general toilet accommodations are used only by a limited number of convalescent private patients or by visitors of the better class.

The administrative headquarters for the private patients' department demands consideration at the hands of the hospital architect. In a moderate-sized hospital it is impracticable to have more than one administrative center. The general offices serve for all departments of the hospital; here all accounts are kept, and here all moneys are received and all payments to special nurses, etc., are made. It is only in the very largest hospitals that a separate office and office force for the private department can be thought of. Assuming, then, that in the ordinary hospital a single administrative headquarters will suffice, this must be so placed as to be accessible to private patients and to their visitors, and it should be possible for visitors to the private department to proceed to the general office of the hospital without passing through wards or ward corridors.

A separate entrance for private patients and for the visitors of private patients cannot always be provided in hospitals of moderate size; it should be regarded as indispensable in a hospital where the private service assumes great proportions.

The visiting staff require a coat room and perhaps a private consultation room. Whether the central coat and locker room of the regular staff will serve the purpose, depends on the size of the regular staff, the number of medical men privileged to treat patients in the private department, and the relative location of the several entrances.

Private patients are sometimes brought to the hospital in an ambulance. The general ambulance entrance of the hospital will suffice for the admission of private ambulance cases, provided it is so placed that patients admitted through this entrance can be taken to their rooms without a long journey through the general corridors of the hospital; otherwise a separate ambulance entrance, guarded from public view, should be provided for private patients.

Adjoining the private patients' entrance, or, if there be no such entrance, adjoining the general entrance of the hospital, a reception room should be provided for visitors to private patients. It must be borne in mind that the number of visitors to a given number of private patients is in excess of the number visiting an equal number of ward patients, and accommodations must be calculated accordingly. A reception or sitting room for general use on each floor of a large private hospital is a luxury which only some hospitals can afford. The need for it is less pressing in those hospitals which have ample balcony space and roof space for convalescents and their friends than in those which are not so equipped, and the value of such a room is in direct proportion to the number of rooms on a floor or the number included in a nursing unit. A small section of expanded corridor will often serve this purpose.

Aside from the general reception room, it is well to provide a small, soundproof private waiting or consultation room, where the relatives of a patient can meet at times of great anxiety, and where unpleasant news can be imparted to them without causing distress to other visitors.

Hospitals which are called on to accommodate any considerable number of guests who are not patients will do well to provide a dining room for these guests. Such a dining room may be used not only for guests, but also for convalescent patients.

Ample telephone service should be provided in connection with the private pavilion. This service will be used in large part by persons who wish to talk privately, and booths should be provided for their use. As far as possible, separate wires should be provided for sending purposes in private hospitals, so that guests may use this service freely without monopolizing the hospital's own telephone lines, which should be kept open as much as possible for calls and inquiries from the outside world.

Extension telephones connected with the city service are not infrequently provided in patients' rooms. This arrangement is not desirable, and will not always be tolerated by the visiting staff. It is wise, however, to arrange an optional connection for a portable instrument in each room, so that a telephone may be installed in any special instance where the circumstances warrant it.

A separate kitchen for private patients signifies better service, but it is not economical in a comparatively small hospital. As a rule, the staff is allowed greater freedom in ordering special diets for private patients than in ordering such diets for ward patients. The special diet kitchen, therefore, should be in proximity to the private patients' rooms.

It is most unsatisfactory to prepare private patients' trays and ward trays in the same serving room. Confusion often results, and the necessary double standard is maintained with difficulty; so that, even where both private and ward patients are supplied from the same kitchen, separate serving rooms are indispensable.

If private patients are cared for on a number of different floors of the same building, the question will arise whether the trays for all these floors should be prepared in a common center, or whether the food as it comes in bulk from the kitchen should be distributed to serving rooms on each of the several floors. In the latter case the preparation of the tray is intrusted to individual nurses (each nurse serving her special patient or special group of patients), or to the supervising floor nurse, who is responsible for the preparation of all the trays on her floor. Nurses necessarily differ in their ability to do this work, and uniform standards cannot be maintained where private patients' trays are prepared in a number of different rooms. A plan which has been found to work is to provide a well-equipped serving room in a central location in the private pavilion. The closer this room is to the kitchen where the food is cooked the better, but proximity to the serving rooms of the private corridor is essential. In other words, if we must choose between placing such a room either close to the kitchen or close to the private rooms, the latter choice must be made; the ideal location for the serving room is close to both kitchen and patients' rooms.

If all the patients' trays are prepared in a central serving room, electric food-lifts must connect this room with the serving rooms on the several floors. A better arrangement is to replace the customary small dumbwaiter by a good-sized freight elevator, upon which a portable tray-rack,

large enough to take all the trays for one floor, can be placed.

As a rule, the allowance of linens to private patients is from three to five times as great as the allowance to ward patients. This must be remembered in planning linen closets. Besides the spacious linen closet on each floor, controlled by the floor nurse, there should be, in a large private pavilion, a central linen room, under the control of the head nurse or housekeeper, where a reserve supply can be kept for emergency use. The demand for linens in a private pavilion varies greatly from day to day and from week to week, and it is of the utmost importance that a reserve supply be kept within reach, where it can be drawn on promptly without roundabout resort to the central linen room of the hospital.

On each floor there should be provided a cleaner's closet, preferably with direct ventilation. Provision must be made also for wheel chairs, stretchers, ladders, etc. The corridor or other space required for wheel chairs will be relatively great where the rooms are small, and vice versa.

The passenger elevator service must be so arranged that patients can be transported from their rooms to the operating room with as little exposure as possible. Separate elevators for passenger service and freight service are desirable. Under ideal conditions the passenger service will be divided into service for the public and service for patients; but so liberal a supply of elevators will not ordinarily be feasible, and the next best thing is to inclose the elevator shaft, and to protect the single available elevator car in such a way that it will be suitable for the transportation of patients. A cut-off lobby in front of the elevator door will prevent elevator noises from disturbing patients. In any event, the elevator should not be placed opposite to or near the door of a patient's room, nor should stairways be so located. It is unwise to finish a hospital elevator in white enamel, or to cover the floor of the car with costly material, such as rubber tile, which under heavy use wears out in two or three years. The body of the car may be handsomely and durably finished in electro-plate, and a marble-mosaic or terrazzo floor will cost less to install than rubber tile, can be easily cleaned, and will outlast a dozen rubber floors.

If a building of many stories has but a single elevator, the hospital will find itself in distress when the elevator is undergoing repairs and is out of commission. Having this need in mind, and remembering also the question of fire and panic risk, it is desirable, in the case of many-storied building, to provide a horizontal corridor or bridge connecting each floor with the corresponding floor of an adjacent building. If the private patients' building has no such means of communication with the general hospital, the emergencies of fire, panic, and machinery breakdown cannot be met with the same facility, safety, or satisfaction. A detail sometimes overlooked is the proper warming of the elevator shaft.

Hospitals which are particular to observe all the rules of hygiene in planning their wards often neglect these rules in planning private corridors; thus corridors are completely surrounded by rooms, without any direct exposure of the corridor to light and air. Such a hospital cannot be healthful. In Prussia a state regulation compels hospitals to leave their corridors exposed on one side, which results in an extremely costly building. While it is unnecessary to leave the corridor exposed in its entirety on one side, it is of the utmost importance that a corridor shall be open to the outer air at two or more points, so that thorough, direct ventilation may be assured. If the corridor is a very long one, an opening at either end, with the omission of a room, to provide an air inlet at the center, may suffice. The break at the middle is not so important where the length of the corridor is not great.

The use of separate day rooms for convalescents is not so important in connection with private rooms as it is in connection with general wards. The private patient, occupying his own room, is not hampered in any way by his neighbors, and when convalescing is not exposed, like the convalescent in a large hospital ward, to conditions unfavorable to comfort and health. Any private room, suitably located, may be converted into a well-aired and properly lighted day room or lounging room for convalescent use. Convalescent patients, however, are not happy if they are room-bound, and therefore balconies and gardens, or roof-gardens, should be provided for their recreation. Since there is no reason why private patients as well as ward patients should not be treated out-of-doors in suitable cases, balcony and roof provision should be ample. A balcony which faces south is infinitely more valuable than one facing north, but the balcony which robs rooms or wards of sunlight is a doubtful blessing. Private balconies, connected with single rooms or with expensive suites, constitute a luxurious and desirable feature of recently constructed hospitals.

On the roof of a private pavilion it is desirable to provide separate lounging or sun rooms for men and for women, so that male convalescents who choose to do so may smoke without annoying other patients. Toilet accommodations should be provided for both sexes, and, in general terms, the roof space may be so arranged that one-third

of it is covered with a permanent shelter (not glass), and perhaps protected on north, east, and west, but quite open toward the south, while the remainder of the roof is open to the sun. Where a semi-protected shelter is built, it should be so constructed that all sides may be opened in summer. A common mistake is to inclose and protect too much of the roof space; when this is done, the roof fails to give the best possible service.

The number of private rooms to be included in a single group or nursing station should not be less than twelve or more than eighteen. If the number exceeds eighteen, adequate supervision by one floor nurse will be found to be impossible, and a single set of service rooms will not give complete service. A very long private corridor has an institutional look which is not agreeable to persons of refinement. If the number of rooms is less than twelve, the cost of construction in proportion to the number of beds is high, because the accessory rooms required for a six- or eight-room group is the same as that required for a sixteen-room group. Not long ago a hospital received a gift of $50,000, with the stipulation that the money was to be used for the construction of a three-story private pavilion, having eight rooms on each floor. The matter was brought to the notice of the writer, who after a conference with the donor succeeded in having the terms of the gift modified, with the result that a two-story building, with fourteen rooms on each floor, was substituted. The administrative advantage of change will be obvious to those who are familiar with hospital usage.

The accessory rooms which must be planned in connection with a group of private rooms are approximately the same as those required in connection with an ordinary hospital ward. Apart from the chief or central serving room referred to above, there should be a small serving or tea room on each floor, similar to that ordinarily found in hospital wards. The refrigerator should be of unusual size, in order to accommodate the special beverages, etc., that private patients frequently provide for themselves. While incinerators are coming into common use in ward construction, the use of an incinerator in a private corridor, where many special nurses are employed, and where the discipline is not so good as in a ward employing pupil nurses, involves a danger to property which must be considered. In a busy private hospital garbage-pail inspection is a valuable check on waste, and this means of checking waste is largely destroyed when incinerators are scattered through the building.

The chart and medicine room may be a room apart, or it may be located in a semi-isolated alcove off the main corridor. If the corridor is very long, the ventilated middle space referred to above may be utilized for this purpose, but not unless a more isolated room is provided as a lounging space for the special nurses. In other words, in the absence of a retiring room for the special nurses, the corridor or the chart room is a place where they will often gather, and, if the chart room is merely a section of the open corridor, the noise made by the nurses at this point will annoy neighboring patients. Toilet accommodations for both sexes and at least one portable bath must be provided for general use on each floor apart from toilets and baths in connection with individual rooms. Signal buttons should be installed in all baths and toilets.

The number of private toilets will depend on the grade of service. Where the hospital clinetele is of the richer class, private baths and private toilets may reasonably be provided in greater number than otherwise. An attachment for flushing bed-pans will add to the usefulness of a private water-closet. There is comparatively little use for private baths in connection with the treatment of the acutely sick. As a rule, private patients, a majority of whom enter the hospital for surgical treatment, have no use for private baths. It is a mistake, therefore, to provide, as is sometimes done, as many as four or six private baths for a group of twelve or fourteen rooms. Two private baths on a floor will usually suffice, and the space gained by the omission of the remainder can be used to advantage, either by increasing the size of patients' rooms, or by increasing the number of rooms on the floor.

On each floor, or connected with each group of rooms, there should be provided a sink-room and a room where the sterilization of instruments and utensils can be carried out. The sinks should be placed near a window, and should not be visible from the corridor. A pleasant arrangement of these rooms is to place the sterilizing apparatus, and perhaps a lavatory, in an anteroom, and the bed-pan sinks, hidden from corridor view, in an alcove, with a separate window. It is bad practice to compel nurses to empty bed-pans in the common water-closets, or even in a sink located in an ante-room to the public water-closet.

There should also be a drying closet and blanket warmer, and a ventilated specimen closet. One or two lavatories on a floor, accessible to the visiting doctors, will save fetching and carrying on the part of the nurses, and will tend to improve the nursing service. A table and sink for the preparation of flowers, and shelves in a ventilated place for their care over night are desirable.

There should be a ventilated closet for soiled

clothes. The use of clothes chutes is optional; they save labor and destroy linen. Sanitary chutes can now be made of stock sectional material, and are less expensive than formerly. Top ventilation, tight doors, and flushing attachments should not be omitted.

It is important to bear in mind the relation between the various service rooms and the patients' rooms. The distance between the serving room, sink room, sterilizing room, chart room, and the most distant patient's room should be reduced to a minimum. As previously stated, service rooms should be duplicated on the floors of very large buildings. The several service rooms should not be strung out along the corridor, so that each of them faces a patient's room and thus constitutes a source of annoyance to the nearest patient. It is far better to group them centrally about a small side corridor running at right angles to the main corridor. Such a plan, on the recommendation of the writer, has been adopted in the private patients' corridor at Barnes Hospital, St. Louis, and in a modified form at the Magee Hospital, Pittsburg. In the Stamford Hospital, at Stamford, Conn., all the service rooms are collected at the focal point or crossing of a T-shaped building; the stairway and elevator are included in this central service grouping.

It is assumed that the stairways and elevator shafts will be entirely cut off, as required by law in some localities, and as indicated by the rules of hygiene, the requirements of safety, and by common sense.

Every room which is to be occupied by a patient should be so located that it will receive the direct rays of the sun during at least part of each day in the year.

From time to time delirious patients will have to be accommodated in private rooms. Bearing this in mind, it is desirable to provide soundproof partitions between rooms, and in some instances to provide double doors between the room and corridor. An excellent arrangement is to have a semi-isolated room on each floor at the extremity of the small service corridor which is referred to above. Such an arrangement is shown in the preliminary studies for a proposed psychopathic pavilion prepared under the writer's direction for the Society of the New York Hospital. This room, in other words, is placed at a point as remote as possible from the rooms occupied by the general run of patients.

Private baths should be so arranged that they may be used interchangeably either with the room on one side or the other. Connection between private room and private bath should not be direct, but should be indirect through a small private hall or anteroom. The mistake has often been made of placing a private water-closet between two private rooms in such a way that its use by the occupant of either room inevitably attracts the attention of or causes annoyance to the patient in the adjoining room.

The size of private rooms depends on many factors. Legal requirements must be met in some localities. On hygienic grounds a private room occupied by a single patient should have a cubic content of not less than 1,000 feet, but private rooms are seldom planned with less than 120 feet of floor space or with less than 1,200 cubic feet. In many localities the custom exists of employing special nurses on twenty-four hour duty. This means that the room must hold, besides the bed and the furniture necessary to the patient's care, a couch for the nurse. More space will therefore be required for the furniture, and in addition to this, on hygienic grounds, the room must be larger than one which is planned for occupancy by a patient only. But whether a nurse is to sleep in the patient's room or not, it is well to remember that a nurse, attendant, or friend is likely to be in the room during a large part of the day, and the required air space should be calculated accordingly. The adoption of a minimum of 1,500 cubic feet for private rooms would be reasonably economical and safe.

The rates which private patients are likely to pay must to some extent determine the size of the rooms, above the minimum, which are provided for their occupancy. In small towns, where the prevailing rates are comparatively low, rooms must necessarily be restricted in size in order to make the private department profitable. In larger cities, where many patients are willing to pay more liberally for hospital accommodations, rooms of larger size can be provided. Ten feet may be regarded as the minimum width of a private patient's room; in such a room a bed can be placed crosswise, and made accessible from both sides. In a narrower room the bed would necessarily be placed with its length along the wall of the room, with but one side accessible, and with resulting inconvenience to patient, doctor, and nurses. No room plan should be accepted which does not show the actual placing of all the furniture and the swing of doors, according to accurate measurement. The mistake is often made of building large closets, as in hotels and apartment houses. A patient's wardrobe is usually a comparatively small affair, and large built-in closets are not necessary. If a built-in closet is preferred, it should be of comparatively small size. There is no good reason, however, why an attractive portable wardrobe cannot be used.

The relation between door and window is important, and should be such as to permit a free circulation of air between window and corridor without creating a draught which will directly strike the patient. The door of the room should be broad enough to permit of the free passage not only of a stretcher, but of wheel chairs and of the bed itself. In addition to the ordinary full door, it is desirable to provide a screen-door or half-door. This may be entirely of wood, or may be a wooden frame filled out with muslin or other suitable material. Rubber bumpers or other sound-breaks should be provided for all doors. The transom light should not be made of clear glass, because it may be desired to darken a room while the corridor lights are burning.

Private rooms should be lighted by an indirect ceiling light, which should not be too cumbersome, and in addition there should be provided a side bracket. A receptacle for a portable lamp and for portable electrotherapeutic appliances should also be provided. The bell-cord should be permanently attached to the wall. The signal system should be of the modern type, which includes a lamp or annunciator in the chart room and a lamp over the patient's door. It is desirable to have also lights connected with this system in the sink room and in the serving room. Push-buttons in the baths and water-closets have already been mentioned. One objection to the electric light or silent signal system is that a call from a room does not attract the attention of a floor nurse who happens to be engaged in the room of another patient. At night, with a single nurse on duty, this may be serious. This objection has led in many instances to the use of a low-sounding buzzer, or to the use of an annunciator or drop-signal, whose slight click is likely to be heard by the night floor nurse, wherever she may be. Loud bells are, of course, inadmissible.

To place running water in every room is to provide a utility and to court a danger. The danger is that the lavatory will be used for purposes for which a slop-sink only is suitable. In rare instances infections have been traced to this source.

Private hospitals should be screened against flies, and the windows of all rooms should be fitted for the attachment of locked metal screens or guards, which will be needed in emergencies.

Fireplaces add to the attractiveness of private rooms, and have value as ventilating flues. Artificial ventilating systems are not required to ventilate the patients' rooms of properly planned private hospitals. The value of exhaust ducts, and possibly of exhaust fans or other accelerating devices in connection with toilets, kitchens, sink rooms, etc., is obvious.

Vacuum cleaners are of limited use in hospital service. In wards their use is extremely limited, but in private rooms they are somewhat more serviceable. They are frequently installed for the purpose of cleaning the rugs which are found in private rooms. It is a question whether it is not better practice to have all of these rugs removed once a day to the basement or yard, there to be thoroughly cleaned. The use of the vacuum cleaner does not do away with the necessity for careful hand wiping of all exposed surfaces in private patients' rooms.

There should be available to the private patients' department a garbage destructor, a mattress sterilizing plant, and store rooms for extra mattresses, pillows, wheel-chairs, beds, rocking-chairs, cots, and cribs. A trunk room for the trunks of patients and guests should not be forgotten.

The reader may have noted the omission of any reference to surgical dressing rooms or examining rooms. Such rooms are rarely required on a private corridor. They are needed, however, in connection with semi-private or intermediate wards. For a particularly difficult or heavy surgical dressing, under anesthesia, a private room patient can nearly always be taken to the operating room floor, where the minor operating room can be used. As a rule, all necesary conveniences for a surgical dressing can be provided in a private room, where the dressing can be done with most comfort to the patient, without annoying or distressing other patients, and without inconveniencing other surgeons.

The principles of fireproof and sanitary construction which are applicable to hospitals generally should be observed in planning buildings for private patients, but their restatement here would add unduly to the length of this article.

Going Back to Hippocrates.

When the great Hippocrates appeared on the scene, Greece was studded with costly and beautiful shrines to Esculapius, the god of the healing art. He was apprehended as a destroying, yet appeasable, deity. Pestilence and death from an unseen cause, and the joy and beauty of health, were traced to him. Whatever happiness here or hereafter the worshiper aspired to, he sought it through maintaining the youthful vigor, symmetry, and beauty of the body; and social science and reforms of all kinds clearly indicate that we are fast returning to the old Greek reverence for the body being as sacred as the soul, whose temple it is.—Prologue to an address by Dr. Noah Hayes, of Seneca, Kan., on "Irresponsible Medicine."

Fabiola, a wealthy Roman lady, and probably the first Christian philanthropist, built a great hospital at Rome. She lived in the fifth century.

ADMISSION OF PATIENTS IN A SMALL GENERAL HOSPITAL.

Individual Care Made Possible by Small Number Admitted—Applicants for Free Beds Are Investigated to Avoid Pauperizing—Technic is Simple.

By ELIZABETH GREENER,
SUPERINTENDENT HACKLEY HOSPITAL, MUSKEGON, MICH.

PAPER II.

IN the management of a small hospital it is most essential that the keynote be that of simplicity of detail in every department rather than elaborate and unnecessarily involved methods built up on the more complicated lines of the larger hospitals.

One most important point to always bear in mind is the value of making a good first impression on the patient and his friends, and at no time is it more possible to create this much-to-be-desired feeling in their minds than at the moment of his admission to the institution as a patient. In the average large hospital a certain established routine must be followed, and as a result very frequently a newly admitted patient is made most uncomfortable, not to say unhappy, by the rigid enforcement of this very necessary routine.

In the small general hospital, however, where practically all of the better class of physicians in the city are represented on the staff, the admission of patients is naturally a much simpler process than in a large institution, or in one where patients voluntarily make application for admission in large numbers.

Our general rule for admisson is that all persons suffering from acute noncontagious diseases whose condition admits of cure or relief shall be eligible for admission. Insane patients or those suffering from incurable diseases may be admitted only by special permission from the Executive Board.

Before being admitted, every patient must be examined by a member of the medical staff of the hospital or by the house physician.

In nearly all cases patients applying to us for admission have been recommended by some member of the staff. We admit a large number of patients from adjoining small towns, but these cases are almost invariably referred by their home physician to some particular member of the staff whom he prefers to have attend to his case. When such patients are sent to us for operative measures, the physician referring the case is always invited to be present at the operation and usually assists.

Fig. 1. Hackley Hospital—Side and rear view.

Patients making application to the hospital for free care are furnished with an application blank for free bed service (Fig. 2). This application is filled out by their physician, and must also bear the signature of some responsible citizen who is willing to guarantee that the applicant is worthy and really in need of this special help. The application is then referred to the Executive Committee of the Board of Trustees, and, if favorably considered, the patient and physician are immediately notified and the ambulance sent for the patient.

In cases of emergency, where it is not possible or advisable to await the action of the Executive Board before admitting a patient, the superintendent assumes the responsibility of admission. The free bed application in such case is filled out

as soon as possible after admission, and the matter referred to the board for its official indorsement at its next meeting. No sick person applying for admission is ever turned away from our hospital. If, for instance, the case is one which does not properly belong to the hospital, but rather to the County Home, or if it is one for which the city or county should be responsible, the patient is admitted temporarily until the proper authorities can be notified and their instructions received.

Our regular ward rate is $1.25 per day, and it frequently happens that, while a patient can pay a part of this amount, it would be out of the question for him to pay the full rate. In such cases, after investigating the patient's financial circumstances, home conditions, etc., we allow him a part free bed, arranging that he shall pay whatever amount seems just and fair, from $1.00 per week up.

Fig. 2. Hackley Hospital—Ambulance entrance.

Should a free bed patient desire to retain the services of some special physician or surgeon on the staff, he is expected to pay at least a part of his hospital expenses. If on a full free bed, he is cared for by such members of the staff as are assigned for that time to the free bed service of the special department in which he has been placed. Each physician on our staff gives freely whatever service is required to the charity cases in his particular department.

We are most careful of the feelings of our free bed patients, and, except the physician and hospital authorities, no one knows which of the ward patients are occupying the so-called free beds, as we have no particular beds set aside for this purpose. We have often had free bed patients in private rooms, and in the case of very sick patients have assigned a special nurse when such a step appeared necessary.

We have also in connection with our institution a room with a special endowment for the benefit of the teachers of the public schools of the city of Muskegon. The fund for this purpose is the gift of a former resident of the city as a memorial to his father, and it has proved a great help and comfort to a large number of teachers, especially those who are a long distance from their own homes.

The arrangement of our ambulance service is rather unique and most satisfactory. One of the local firms in this city has established a special service for this work, and our hospital has a yearly contract with this company. A charge of $3 is made all patients for city calls. This charge is collected whenever possible by the hospital authorities, and 50 percent of all collections on city calls is allowed us. We also have the privilege of calling this ambulance without charge for free bed cases. Patients living beyond the city limits are charged according to distance, but the hospital is not allowed any commission on these cases.

In this way we have a most satisfactory, profitable, and convenient arrangement; one that causes us no trouble whatever, and makes no demand on the hospital employees, as two men are always sent out by the company on every ambulance call. Another satisfactory feature of this service is that the ambulance is stationed in the center of the city instead of on the outskirts, as is the hospital, so that in hurry calls or emergencies a great deal of valuable time is saved.

All cases brought to the hospital in the ambulance or any stretcher cases brought in private conveyances are taken to a special ambulance entrance opening directly into our regular admitting room (Fig. 3).

This room is most conveniently fitted up as an emergency operating room, and, if necessary, the patient can be given immediate attention there. This is an especially valuable arrangement in poison cases or patients demanding instant attention for any reason. The admitting room is of fair size, with tile floor, operating table, small sterilizing outfit, instrument and medicine case, and closet for supplies. It has a folding door which opens into the elevator, thus enabling us to remove the patient to whichever department he is assigned without any unnecessary delay or confusion. A wheel stretcher, which is always kept

in the admitting room, and a wheel chair in the main hall are also found of the utmost value in aiding us to be ever ready for emergencies.

Excluding accident cases, over 75 percent of all patients admitted are sent in by the physician in charge of the case, who generally arranges with us in advance for the patient's admission, states the probable diagnosis, and, when possible informs us whether the incoming patient is to go into a private room or the ward.

As this patient has already had a proper examination by the physician admitting him, no medical or physical examination is necessary before assignment to ward, except in those comparatively few cases who apply for admittance personally and who are not under the care of any regular physician. For the safety and protection of other inmates, these cases are examined in the admitting room by our house surgeon, a tentative diagnosis made, and the case referred to the proper department. The head of this department is notified of the admission, and assigns such patients to the members of his staff in regular order. These cases, however, are not frequent, as most of our patients are sent directly to us by their attending physicians.

Cases of contagion applying for admission are not brought into the general hospital building at all, but are taken through a special outside entrance directly into our isolation pavilion. This department for contagious diseases has two wards for patients, each with nurses, rooms, service, and toilet rooms, all completely separated from the rest of the building.

We have an unusually large obstetrical service in our hospital and have a pavilion accommodating fourteen patients, with a well-equipped case room and large, sunny nursery in connection.

Patients wishing to be admitted to the hospital for confinement generally make their reservation in advance, either personally or through their physician. There is such a demand for rooms and beds in this department that the reservation of any particular room must always be provisional, and patients always engage their room with this understanding.

A large number of obstetrical cases, however, especially ward patients, are brought in at any hour of the day or night by staff members, and these cases, usually being emergencies, are taken immediately to that department.

Regular patients who come in private convey-

HACKLEY HOSPITAL APPLICATION FOR FREE BED.

No..... Date.....

ONLY CURABLE, NONCONTAGIOUS CASES RECEIVED.

(*Fill out this blank and take or send it to the Superintendent of the Hospital, who will notify you when the patient may be admitted.*)

Name of patient.....

Address: No. .....Street.....

Postoffice .....County.....State.....

Occupation.....Age.....Sex .....Color.....

Nature of disease.....

.....

.....

.....

Duration of illness.....

(*The following certificate must be signed by some responsible person familiar with the case and by the attending physician.*)

I hereby certify that I know M.....

to be a worthy person and unable to pay for hospital treatment of which.....is in need, and I recommend .....to your hospital as a deserving patient.

Signature of.....

Address.....

Signature of attending physician .....

Address.....

Name of person to be notified.....

Address.....

TO BE FILLED OUT AT HOSPITAL.

Application received .....Notified to enter.....

Application refused .....Date of admission.....

No.....

Fig. 3. Application blank for free bed—Size, 8½x11 inches.

ance or walk into the hospital are shown into our waiting room, and arrangements made for their care, room, etc. Every patient admitted is received either by the superintendent or one of her immediate assistants. All financial arrangements are made at this time, either with the patient or his friends, and any extra charges, such as those of the operating room, x-ray, or special nurses, are stated and arranged for.

A receipt is given for any valuables or money on deposit for safekeeping or on account. The patient is then taken to his room or ward, introduced to the nurse in charge, and immediately made to feel as comfortable as possible.

In admitting patients we use an admission blank, which we find most convenient for general office purposes (Fig. 4). These blanks are made up into paper-bound books of 150 pages each, with perforated edge. So long as the patient remains in the hospital, his admission slip remains in this book in the general office. When he is discharged, the slip is dated, detached, and filed away with his chart and history. We use the card index system—one card for general information and one ledger card. As will be seen, these blanks give our bookkeeper the necessary basis for her regular cards, and do away with the necessity of anyone but herself handling the cards, as all general information required in the office concerning the patient is to be found in this admission book. This book is also of the greatest convenience to the night superintendent in calling patients' friends when necessary, or in determining whether a priest or minister is to be sent for in the event of a sudden change in the patient's condition.

After the patient is admitted and temperature, pulse, respiration, and general condition noted, the house surgeon at once notifies the physician on the case of the facts and obtains the immediate orders for the patient's care or treatment, which he records in the physician's order book on wards. There is a standing order for urinalysis and a blood count for each patient admitted. Blood pressure is taken only if desired by the attending physician.

As soon as possible after admission the patient's history is taken by the house surgeon, unless otherwise ordered by the physician in charge of the case. A special chart is also begun immediately by the nurse in charge, which is continued until the discharge of patient. In case of temperature on admission a special temperature chart is begun, which is continued until discontinued by the physician in charge of the case.

Private room patients are, of course, expected to keep all clothing and personal belongings in their room, but the clothing of all ward patients is carefully listed by one of the nurses and sent immediately to the locker room, where each patient is allowed one locker space. Coats, skirts, etc., are put on hangers. Other garments are folded carefully and placed on a low shelf in the locker.

Should any of the clothing be unclean it is at once listed, tagged, and sent to the laundry before being placed in the lockers. In the case of vermin being present, the entire clothing is imme-

HACKLEY HOSPITAL

No.....

Date.....191.... Hour.....

Name of patient.....

Address .....

Occupation .....Married Single.....

Age .....Birthplace .....Religion .....

Name of nearest relative.....

Address .....

Telephone address to be used: Day.....

Night .....

Attending physician .....

Room or ward.....Rate .....

Account to be charged to.....

Valuables for deposit.....

Ambulance.....

Money for deposit.....

Paid on admission.....

Diagnosis .....

Date of discharge.....

Remarks .....

Fig. 4. Information blank—Size, 7¼x9½ inches.

diately sterilized, after which it is cleaned and cared for in the usual way.

In large institutions it is possible to have a special department for the reception and bathing of ward patients, storing of clothing, etc., but in smaller hospitals considerable of this work must necessarily be done in the general bath rooms.

We have a standing order to give a bed bath to all newly admitted ward patients, unless their physician states that a tub bath may be given. All new patients are put on a straight milk diet until otherwise ordered.

One matter which we find most difficult to control in our hospital is that of visitors. It must be remembered that most of our ward patients come from comfortable homes and many from the outlying farming districts. The families of such patients are naturally anxious to see their sick friends and relatives whenever their business necessitates a trip to the city and it is necessary many times a week to make exception to our general rules for visiting hours—from 2 to 4 p. m. daily, and every evening, except Sunday, from 7 to 8:30 p. m.

Another problem is the handling of patients' friends and relatives who, for special reasons, desire to remain in the hospital with them. Under ordinary conditions it is, of course, impossible to permit this, but in the case of a patient in a critical condition, especially one from out of the city, or of a small child whom it seems unwise to separate from its mother, the courtesy must be extended. In such cases visitors are served with trays, the diet being the same as that served in the wards or pavilions, and a charge made of 35 cents for breakfast and 50 cents for dinner or supper. For a mother or relative who stays in the hospital a charge of $5 per week is made for board. Of course privileges of this character have to be controlled very largely by the exigencies of the case.

There is a great demand among operative cases for special nurses, and, where expense has to be carefully considered, we frequently assign one of our senior pupil nurses to the case, thus lightening the burden of expense for the patient and also giving the nurse in training a valuable opportunity to gain experience in this particular line of work. For those patients who can afford it, graduate nurses are called.

In our general office we keep a list of patients on large ruled sheets, which are made out weekly, the names of the new patients being added from day to day (Fig. 5). A space is left on one side for the daily report of the patient's condition, which is filled in each morning by the night superintendent, so that early morning telephone inquiries as to patient's condition can be answered

Date.....

Name	Physician	Room or Ward	CONDITION	
			Sunday	Monday

Fig. 5. Daily report blank—Has space in width for all the days of the week and has space in length for thirty-five names.

HACKLEY HOSPITAL.

Muskegon, Mich.,.....191.....

THIS CERTIFIES that.....

.....

the Hackley Hospital of my own free will and request, and against the advice of the superintendent and the attending..... In doing this I take all risks, and free, now and hereafter, said Hospital, its authorities, and the attending.....from all responsibility and blame.

.....

.....

.....

Signed.....

Witness.....

Witness.....

N. B. The signature to this release should be witnessed by two persons who are connected with the Hospital and as far as possible those who are likely to be here the longest.

Fig. 6. Release blank—Size, 8½x11 inches.

quickly and correctly. As patients are admitted or discharged, names are added to or taken from this list, which is kept on the telephone desk for ready reference.

The night superintendent makes up the daily census report at midnight from each ward, and the total for the hospital in a special book for that purpose, noting admissions, discharges, births, and deaths for the past twenty-four hours.

Patients are discharged only by the physician in attendance on the case, or by his order through the house surgeon, such orders being in writing. The office is notified of all such discharges, and the patient's account is made out at once and sent to the ward, so that it may be settled, if possible, before the patient leaves, and also in order that, if there is any item on the statement which is not clearly understood, it can be explained to the satisfaction of the patient. Any money or valuables which have been deposited for safe-keeping are given to him at this time.

When ready to leave, the nurse in charge brings the patient to the office, with his chart and history, and does not leave him until he is safely turned over to his friends or placed in a conveyance to be taken home.

Should a patient decide for any reason to leave the hospital when in the judgment of his physician it is unsafe or unwise for him to do so, he is requested to sign a release, which exempts the physician and hospital authorities from all future responsibility or blame (Fig. 6).

If any patient unexpectedly takes a serious change for the worse, the attending physician and the patient's family are immediately notified by the hospital authorities. In case of death the body is cared for in the usual manner and removed to a mortuary in the basement, from where it can be quietly and easily removed by the undertaker without possibility of being seen by any house patients, thus sparing them this most depressing sight.

Muskegon, Michigan.....

On or before.....after date, for value received.....jointly and severally promise to pay to the order of HACKLEY HOSPITAL

.....Dollars $.....

at the Muskegon Savings Bank, Muskegon, Michigan, with interest at six percent per annum after thirty days from date. The makers and indorsers of this note severally waive presentment for payment, protest, and notice of non-payment thereof. Payment of this note will be made as follows:

.....

Due..... .....

Address..... .....

Fig. 7. Promissory note—Size, 7½x3¼ inches.

Patients who are unable to settle hospital accounts before leaving are required to sign a note which gives them the required amount of time needed for settlement (Fig. 7). A few days before such note falls due, if we have not already heard from the case, a little reminder is sent him in printed form (Fig. 8).

HACKLEY HOSPITAL.

.....

.....

.....

Your note for $....., dated....., given in settlement of account, will be due..... and can be paid at this office, or, if more convenient to you, this notice can be presented to the Treasurer at Muskegon Savings Bank and payment made there, and then note will be canceled and mailed to you.

E. A. GREENER, Superintendent.

Fig. 8. Notification of maturing note—Size, 6x3½ inches.

As is the case in so many communities, our hospital came just when its need was being felt in this city and vicinity, and it has grown steadily in the service of the community and in the appreciation of the people. Experience has disarmed criticism, and gratitude has taken the place of prejudice and fear.

The Injured Finger.

One of the most human, artistic, and appealing pictures we have seen is "The Injured Finger," published by the Surgery Publishing Company, of New York. This depicts a representative type of the present-day physician treating an injured finger of a street urchin, while his two pals are intently and sympathetically watching the operation. We are sure that the physician would prize and his patients and friends would enjoy this beautiful reproduction, which is so much more natural, more appealing, and more human and so different from most of the familiar office and library pictures depicting gruesome scenes.

Dr. Harvey Cushing, professor of surgery in Harvard Medical School, deplored the fact recently that human surgery and animal surgery had ever been separated, because he thought there was little difference between the two.

JAMES BUCHANAN BRADY UROLOGICAL INSTITUTE OF JOHNS HOPKINS.

Second Structure of Its Kind in the World Provides Facilities for Best Scientific Study of Rapidly Developing Field of Medicine.

By HUGH H. YOUNG, M. D.

ASSOCIATE PROFESSOR OF GENITO-URINARY SURGERY, JOHNS HOPKINS UNIVERSITY, BALTIMORE.

IN the summer of 1912 the writer showed to Mr. James Buchanan Brady tentative plans for a building to be devoted to urological surgery, and Mr. Brady decided to build and maintain such a building at the Johns Hopkins Hospital.

The tentative design consisted of a six-story building to connect with and utilize the present excellent out-patient genito-urinary dispensary, with public and private wards, adequate laboratories and rooms for research and experiment, and quarters for residents.

Authorized by Mr. Brady to design a building costing about $200,000, we first made a cursory study of hospitals here and abroad, but could find only one—St. Peters, London—solely devoted to urology. We then proceeded to perfect the plans and specifications for a building in which the laboratory and experiemental side should play a very important role, and in which clinical material, public and private, out-patient and in-patient, could be used for study, research, and advancement in the field of urology and border line subjects. The accompanying photographs of plans show the fruition of our labors of over a year. The foundations are now just being laid, with expectation of completion of the building within a year and dedication in October, 1914.

The building consists of six stories, a basement, and an attic story. The location was determined by a desire to be adjacent to and to connect with the genito-urinary out-patient dispensary in the first floor of the surgical building. For this pur-

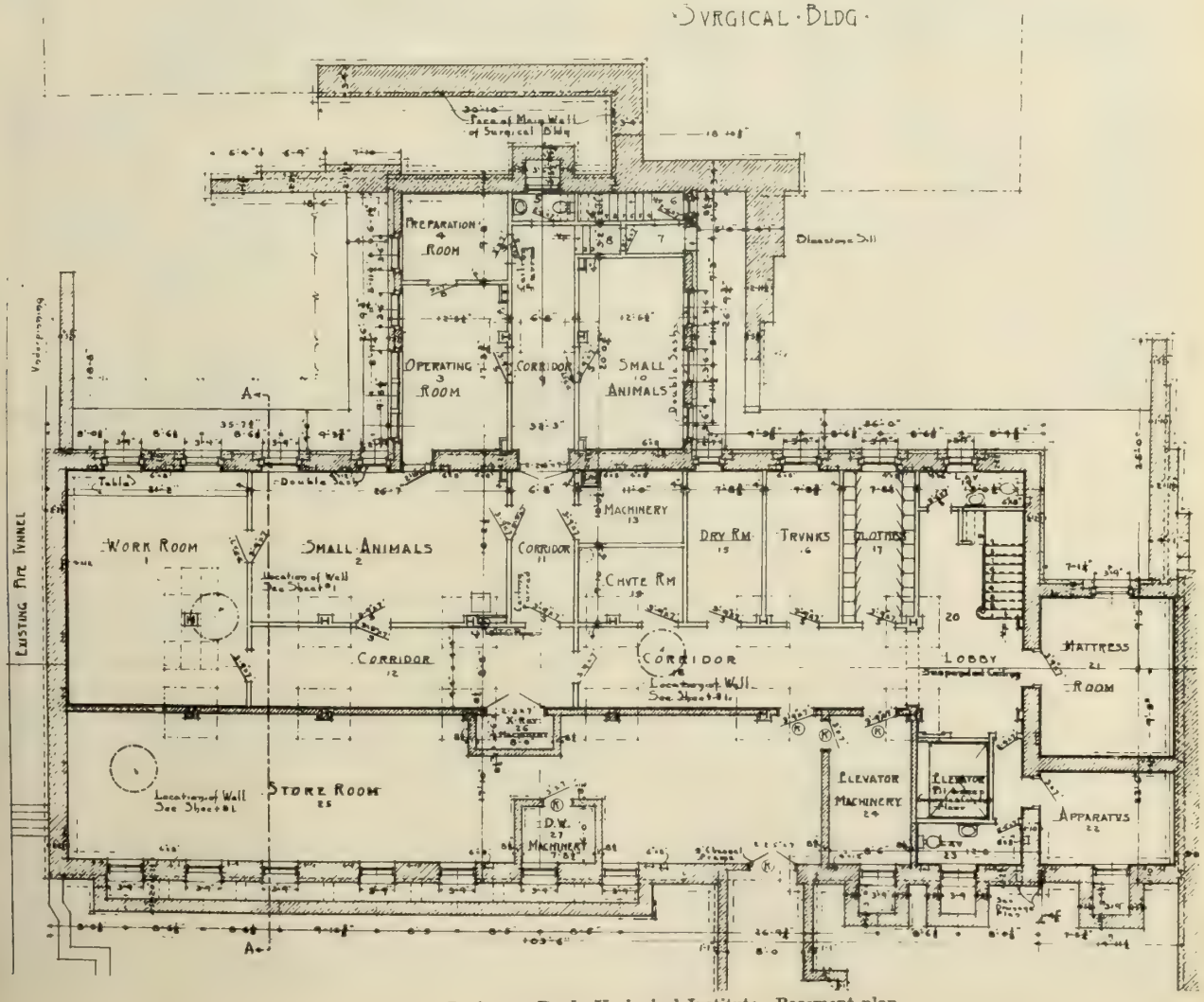

Fig. 1. James Buchanan Brady Urological Institute—Basement plan.

pose there was a space of about 120 feet between the surgical building and the kitchen on Monument street, for which a building 45 feet wide has been designed.

It was considered very important that the entrance should connect directly with the main corridor which connects the various wards of the hospital, and this has been very succesfully provided for by converting a portion of the north end of the ground floor of ward D into a corridor and broad entrance hall, from which the stairs and elevator are reached, as shown in the second floor plan. As the main corridor is on high ground, it and the main corridor will make for simplicity and ease of management.

Taking up the several stories seriatim, we see that the basement will contain rooms for animal experimentation. In order that no smell or noise shall get beyond the rooms in which the animals are kept, fresh air is to be forced in at the ceiling, after passing over steam coils, and then drawn out by other fans through registers near the floor. In this way a healthy atmosphere can be maintained without opening the windows. Adequate operating and preparation rooms are provided, with apparatus for sterilization, etc.

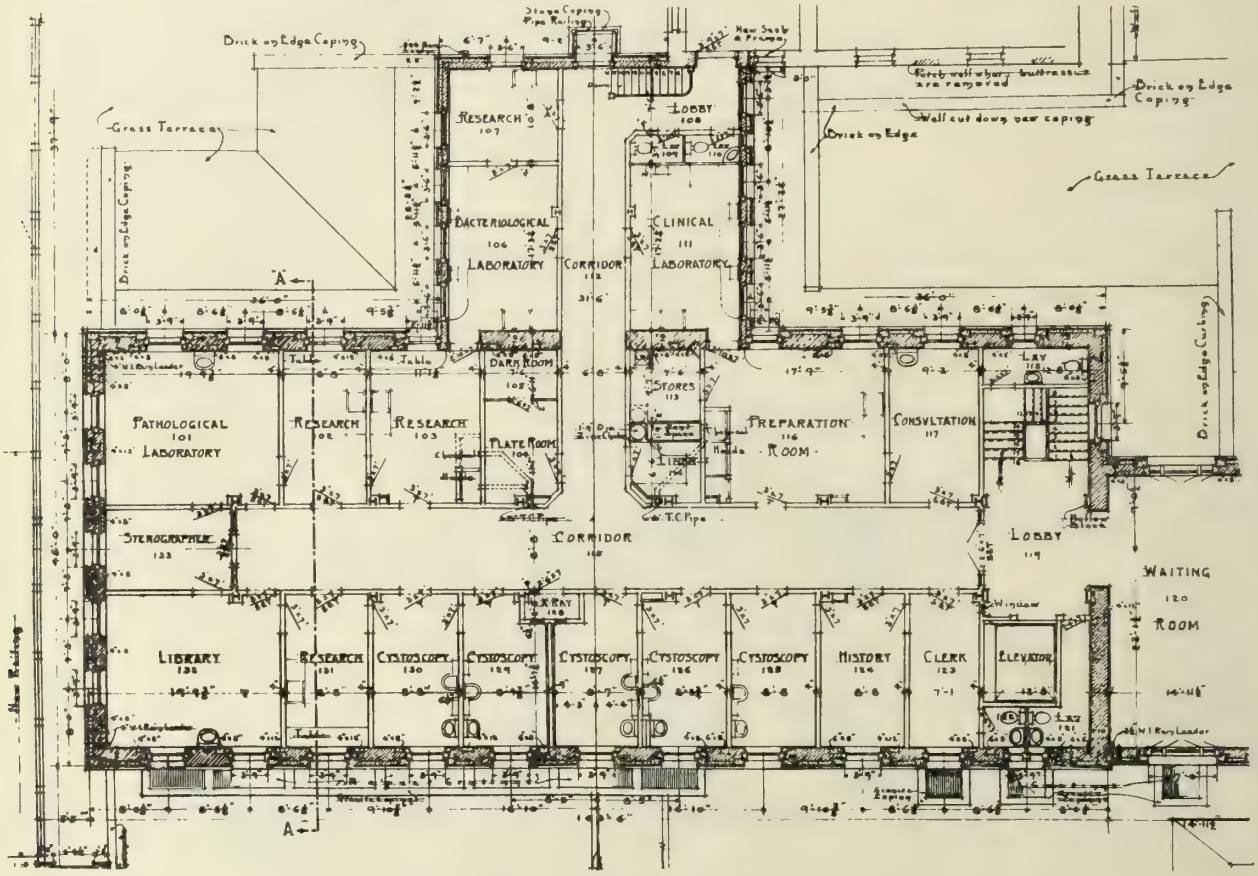

Fig. 2. James Buchanan Brady Urological Institute—First story plan.

has been possible to get two stories beneath this level—the first floor, which connects with the genito-urinary out-patient dispensary on a level with the street, and the basement, which will be well provided with light by using sloping terraces rather than retaining walls around it.

On the west side the building is connected with the kitchen by a bridge through which food will be brought directly to the dumbwaiter supplying the five floors above. This will make it unnecessary to enter the building with food wagons, the food elevator being loaded from without—a great desideratum. The proximity to the surgical building, the out-patient dispensary, the kitchen,

A work room, to be fitted up as a well-equipped machine shop, is intended to be used in the preparation of experimental apparatus and new surgical instruments. The rooms above described are provided with abundant illumination by cutting away the surrounding embankments to the form of gradual terraces, which will obstruct no light.

The remainder of the basement, the west side and south end, will serve valuable utilitarian purposes, providing a room for soiled clothes, which will reach it by chute from the upper floors of the building; a dry room provided with steam for drying bed clothes, mattresses, etc., a room for

the storage of trunks, a clothes room, with individual lockers for patients' clothes, rooms for storage of mattresses and apparatus, and a long store room, which connects with the store rooms of the kitchen building by means of a tunnel and lift, as shown in the basement plan.

The first floor is to take care of varied activities. Patients to be admitted to the hospital are shown to the waiting room. Rooms for clinical purposes, history taking, consultation, and examination are amply provided for. Many of the rooms labeled cystoscopy will be really for general urological examinations, including urethroscopy, cystoscopy, and ureter catheterization. Each room will have hot and cold sterile water, provided from a general system, for the preparation of irrigations, an electric sterilizer for instruments and nozzles, sink, lavatories, etc. Two of these rooms are adjacent to x-ray apparatus, so that pyelographs, radiographs, high-frequency treatments, etc., can be done without moving the patient from the cystoscopic table. Specimens removed from patients for urinalysis or histologic diagnosis may be studied in the adjacent laboratories, and x-ray plates may be developed and studied in rooms provided for this purpose.

The laboratories on this floor are intended to be very complete and adequate for a small group of workers. The preparation room, with hoods, cupboards, and store room, will be the work place of one or more technicians. The clinical laboratory will be used for urinalysis, blood work, etc. Laboratories for bacteriology, pathology, and chemistry, and three or four rooms for private research, are provided. These, taken in conjunction with the rooms for animal experimentation in the basement, should offer good opportunities for investigation. The various laboratory rooms are to be equipped with vacuum and compressed air, and the four chemical hoods will also have steam connections. Running water and small staining sinks on the microscopic tables will add to the convenience of the workers.

This laboratory floor ties in with the genito-urinary out-patient dispensary, which, as will be seen by the plans shown, is very commodious and well adapted for a large out-patient clinic. The general clinic room holds six operating tables, besides two places for standing irrigations, sterilizing apparatus, etc. Adjacent is a clinical laboratory in which urinalysis, bacteriological work, and study for spirocheta are made. Another room provides two tables for minor operations, and next come rooms for urethroscopy (one table) and cystoscopy (two tables). A lecture room and a small teaching museum complete the floor, which connects with the two-story L of the Brady institute.

Important and interesting cases discovered in the out-patient department will be brought across and thoroughly worked up in the examining rooms and laboratories of the institute, and, if necessary,

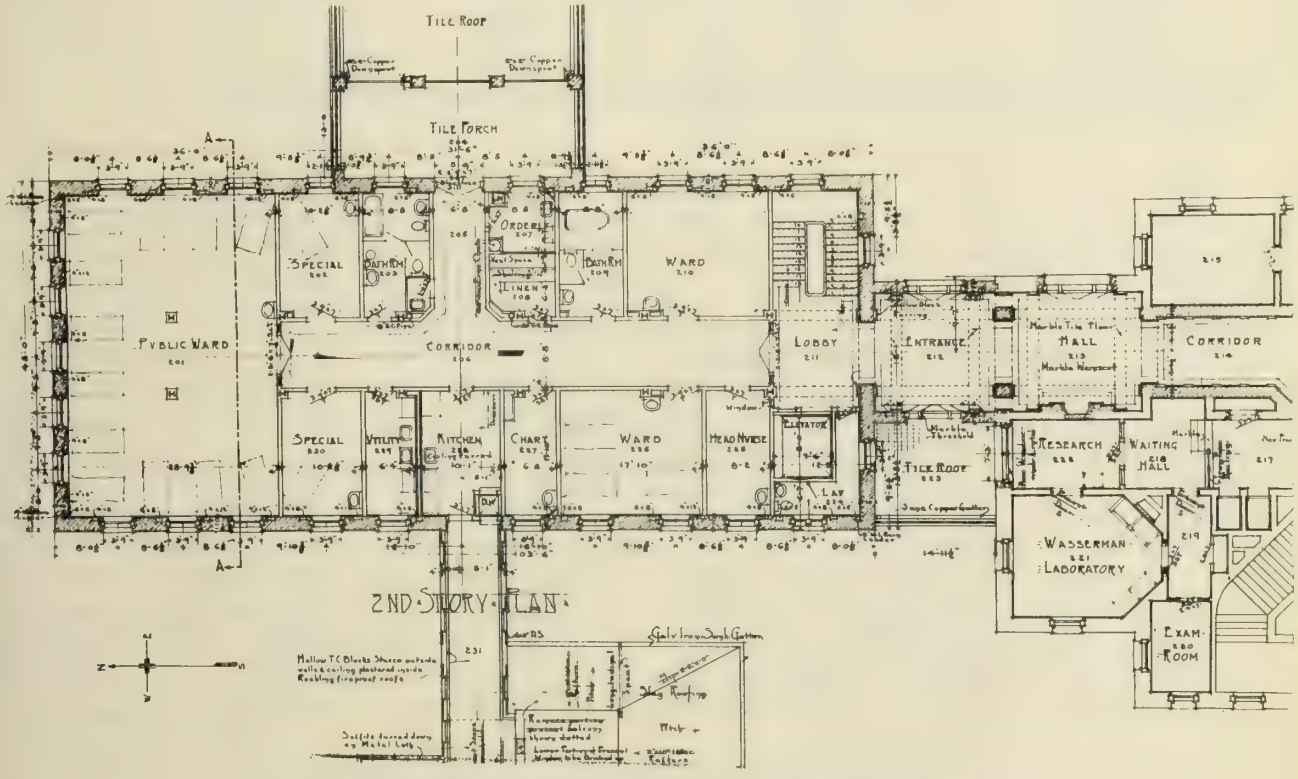

Fig. 3. James Buchanan Brady Urological Institute—Second story plan.

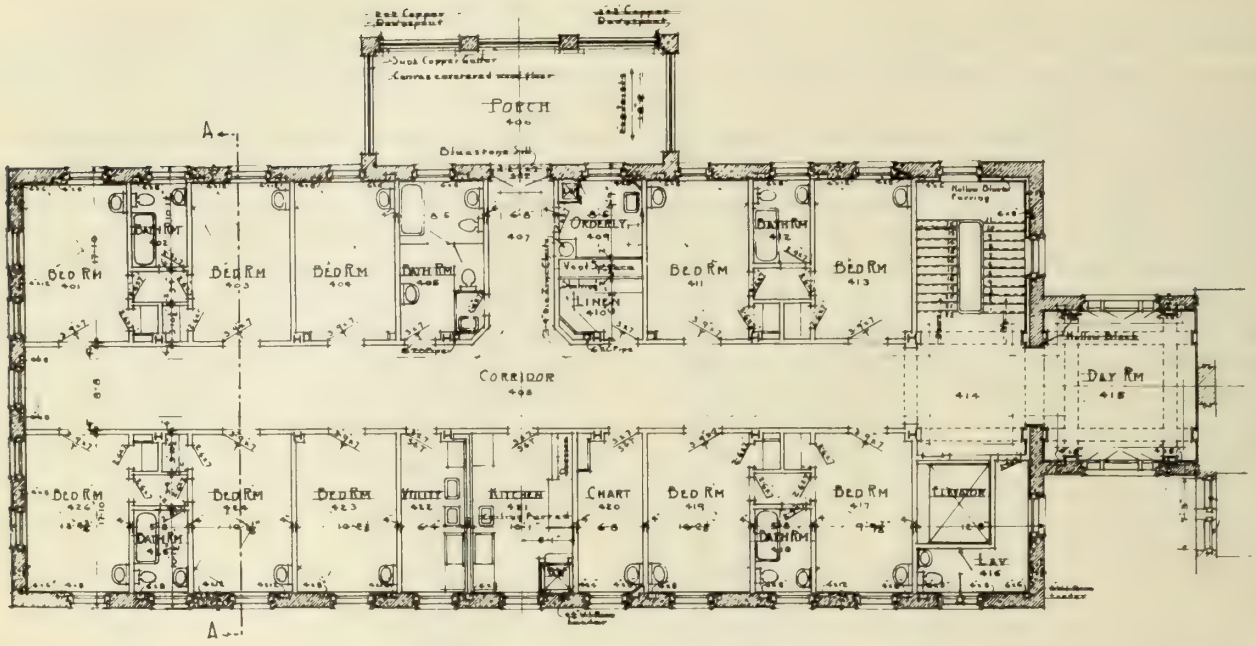

Fig. 4. James Buchanan Brady Urological Institute—Fourth and fifth story plan.

ureter catheterization, functional renal tests radiographs, pyelographs, etc., carried out before or after admission to the hospital wards.

It is the intention to use the hospital residents and interns and a selected group of outside workers in all the various departments at different times of the day—dispensary, laboratories, research rooms, animal experimentation, hospital examinations and treatments on public and private patients, work in the operating room in the surgical building on operating days, and in the wards. This concentration of various activities should do much to save time, facilitate thorough work, bring all the workers into close touch with each other, inspire a spirit for experiment and research, and insure a full utilization of all the clinical material at hand. We hope to secure two or more well-trained whole-time laboratory men to lead in research and experimental work.

The second story contains a public ward for twenty patients, subdivided into a large ward for twelve patients, two single-bed wards for special cases, and two small wards of three beds each, Each ward is provided with a lavatory, and there are two bath rooms and toilets for general use. In this way cases can be isolated for special study.

The service rooms are grouped at the center of the building, which should facilitate administration. The food lift is reached from the outside of the building on this floor by a flying bridge

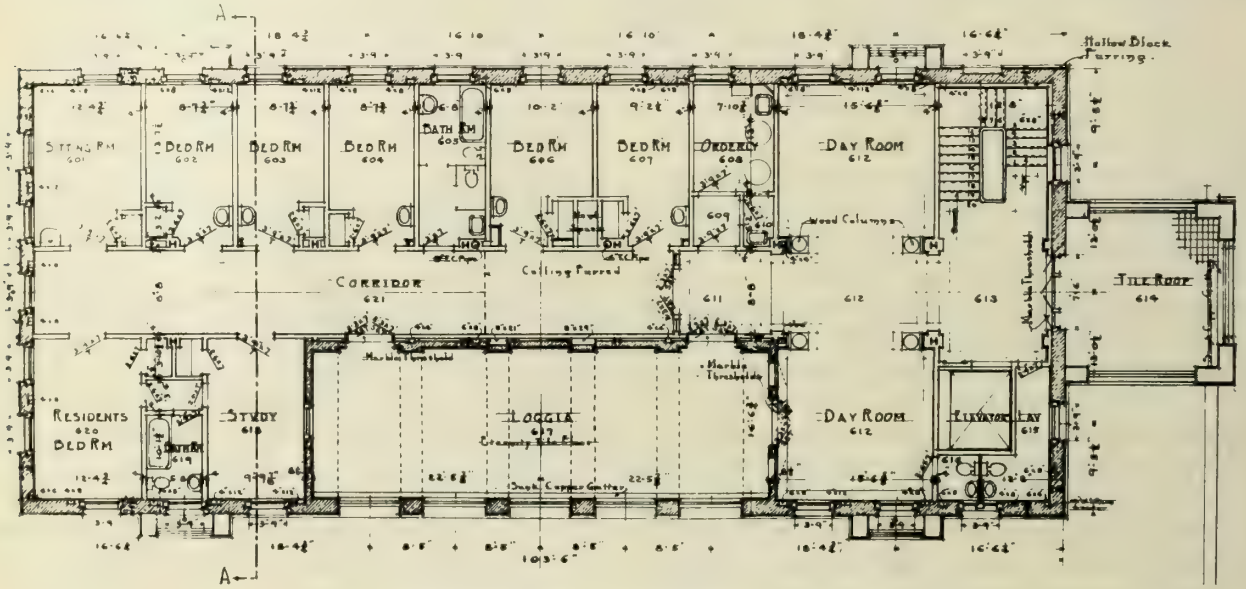

Fig. 5. James Buchanan Brady Urological Institute—Sixth story plan.

from the kitchen, thus doing away with the necessity of bringing the food wagons into the building.

The main entrance is also on this floor, the connection being made with the main hospital corridor by means of a short corridor shown on the plan and a dignified "foyer" or entrance hall. This room, 15 by 34 feet in size, will be decorated in gray marble, with mantle, over which a bronze dedication to Mr. Brady will be placed. Lighted by French windows on each side and with a few attractive chairs and settees here and there, it should prove a pretty feature. Through this hall the second public ward is reached by a single stair

Fig. 6. James Buchanan Brady Urological Institute—First story of new building.

flight, and the elevator serves the private wards and roof garden.

An office for the chief nurse of the building is next to the entrance lobby—a convenient point for administrative purposes. To the left of the corridor, as one enters, is the entrance to the serological or Wasserman laboratories. Here this work for most of the hospital will be done—hence the desirability for having it convenient to the main corridor. A waiting hall, for patients, an examining room for obtaining blood and other specimens, a laboratory, and a research room are provided. The animals for this work will be kept elsewhere in the basement, as described. It is probable that rooms nearly for the administration of salvarsan will be secured, thus making a very complete subdepartment for syphilis.

The third story is similar to the second—a public ward for twenty patients. Over the entrance hall of the floor below an attractive day room is secured.

The fourth and fifth stories contain ten rooms each for private patients. One public and four private baths are provided. The latter may be used with either or both of the adjoining rooms, which may likewise be used en suite. Every room is provided with lavatory and running hot and cold water, which should prove a great convenience to the patients, nurses, and doctors, and greatly minimize the danger of transmitting infections to other rooms. The same grouping of service rooms seen on the public ward plans are shown here, and day room and porch are also provided.

The corridor floors are to be of battleship linoleum, with a broad border of gray marble, and a similar coved marble base, both on the private and public ward floors, and is copied from the Marburg building, in which it was first placed with very pleasing effect. In the laboratories terrazzo is to be used, and also in the examining rooms, except the two in which x-ray work is to be done, and in these sheet rubber will be em-

ployed to minimize danger of shock, etc. The private bed rooms will have wood floors of Georgia pine.

The sixth floor is primarily for residents' quarters. The chief resident will have his study, bed room, and private bath; the others each a bed room, with lavatory and running water, and the use of a common sitting room. The rest of this floor is to be used as a day-time sitting and lounging place for private patients, a large day room, an open porch or "loggia," and a deck or roof garden.

The attic floor is not to be finished. With numerous dormer windows, it is well lighted, and may be used as an extension of the laboratories or for other purposes. No operating rooms for patients are provided, as ample accommodations are present in the surgical building.

SOCIAL SERVICE—A CONTRIBUTION TO ECONOMY AND EFFICIENCY.[1]

End Results Are Best Secured by Follow-Up Work in the Homes of Patients—Conditions Under Which Social Service Is Most Efficacious.

By ELIZABETH V. H. RICHARDS,
HEAD WORKER SOCIAL SERVICE DEPARTMENT BOSTON DISPENSARY.

KNOWING that the American Hospital Association is organized for the "promotion of economy and efficiency in hospital management," I shall confine my paper on social service to its relations to those two administrative features. Of social service in relation to progressive medicine and to the humanitarian side of medical care I shall not be able to speak, although to both it has a contribution to make.

It was in the out-patient department that social service had its beginning. That its need was first felt there may have been due to a sense of ineffectiveness of which a physician is far more conscious in an out-patient department than in the wards of a hospital. In the latter he is given every facility for painstaking and thorough care of his patients; the opportunity for their control includes the entire regulation of their daily routine; every convenience for expert diagnosis and treatment is available. Above all, as the patient remains in the hospital in most instances as long as the physician feels it necessary, he may look forward to a reasonable period of time in which to test his diagnosis and observe his patient's response to treatment. How different from the situation in an out-patient department! There patients file by in rapid succession; there is often little time for thorough examination, and the equipment of an out-patient department has, in many instances, suffered in comparison with that of the wards. The assistance necessary for careful recording is often lacking, and, above all, many patients do not come back. Treatment is prescribed halfheartedly, with the knowledge that much of it will not be, cannot be, carried out. Dr. Cabot describes this situation so vividly in his first annual report when he says: "There occurs many times each year a scene not unlike that described in 'Alice in Wonderland':

> " 'Have some wine,' said the March Hare.
> 'I do not see any,' said Alice.
> 'There isn't any,' said the March Hare."

Without any sense of the humor and pathos of the situation, we say (in substance to many patients): "Take a vacation, get a job, get a set of teeth, or get a truss." There is none in sight and no means of getting any. All these factors combine to minimize the interest in, and therefore the importance of, medical service in an out-patient department.

Social service is not a panacea for these problems, but social service can offer definite lines of assistance to the physician and to the administration which may lessen certain discouraging aspects of an out-patient service. The most obvious one, and therefore the one on which most emphasis has been placed, is that in connection with making treatment effective.

The passing of the family physician, intimate with the whole background of his patients' lives, leaves the doctor in an out-patient department to suffer under disadvantages unknown to the old family practitioner. Lack of knowledge of a patient's inheritance, home conditions, domestic problems, and financial status are all handicaps to diagnosis and treatment, and ones which the social service can materially lessen by home visiting and by added interviews in the dispensary.

The passing of pills and powders, and the substitution in many instances of fresh air, rest, wholesome food, and recreation, has left a gap not met by the apothecary. In the first year of one social service department 1,000 patients were referred for more than fifty different reasons. These reasons have been classified into what

[1]Paper read before the American Hospital Association, Section on Social Service, Boston, August 28, 1913.

might be called social prescriptions found necessary by the doctor as a part of treatment; they include instruction in hygiene, temporary home during treatment, rest, change of work, glasses, orthopedic plates, false teeth, special diets, general health built up previous to operation, wholesome recreation, provision for unmarried mother, bad habit to be broken, and home and industrial adjustment for the cardiac and tuberculosis cases, and these are only a few of a long list.

In order the more effectually to give this personal service to the individual patient, social workers have been finding it necessary to develop their organization and methods of work in a somewhat different form than was anticipated. The first social workers were placed in an office, which constituted, in medical parlance, a social clinic. To this clinic or department were sent those patients for whom the physician asked special help. Thus the choice of patients for social service was entirely dependent on the interest, leisure, and ability of the doctors to select them. In many social service departments it was not at all uncommon, nor is it today, to have referred from the same clinic, with each change of service, quite different types of problems. From a given clinic during one doctor's service only patients needing convalescence would be referred. During the next doctor's service, unmarried, pregnant girls would be sent. During the third doctor's service the majority of patients referred would be those requiring an operation, and to plan for the family during the absence of the breadwinner or homemaker would be the demand. This irregularity of opportunity made social service seem a matter of accident, and those doing the work could feel no assurance that the patients sent them were the ones which they were most likely to be able to help, for in social work no less than in medicine there are ills for which cure or relief is still unfound, as the chronic loafer, and others, again, for which there is almost as sure a specific as quinine for malaria. These unsatisfactory features of social service, combined with others also realized in the day's routine, brought up two questions for which there seemed no available answer:

1. What are the problems of an out-patient department?

2. In which of them, and in what ways, may social workers be of use?

Such questions are in reality for the administration of an out-patient department to answer. To answer them, two steps are necessary—first, a chance to study the facts, and, second, a chance to experiement under favorable conditions. In both steps social workers have been enelisted, and, as will appear from some of the studies and experiments which follow, they have been given an opportunity to be of assistance to the executive authority, as well as to the physicians, in achieving better results in the treatment of patients.

In studying a general medical clinic it was found that of the total number of patients coming for treatment 63 percent of them made but one visit. The same percent has been found true, with slight variation, in a genito-urinary department and a mental clinic. In the mental clinic just noted the experiment was tried of placing a social worker in the clinic, and as a result of personal visits and letters, in three months, the average per patient, was raised from one to five visits. In a children's clinic, by a postal-card system of communicating with patients who did not return, the number of visits per patient was raised from 2 plus to 4 plus, while in a skin clinic in which a social worker sees every patient as many as fifty-seven patients have returned for treatment in answer to fifty-eight letters.

In a three-months' study of a mental clinic the number of cases with deferred diagnosis reached 46 per cent of the total number, while during a similar statistical period in which there was a social worker in the clinic this number fell to 6 percent. At first sight any connection between social service and diagnosis may seem far-fetched, but the explanation is a simple one. The social workers' relation to diagnosis was largely one of following up the patients and getting them back sufficiently often to make it possible for the physician to make a diagnosis.

During a three months' service in a medical clinic in which thirty patients were advised by the physicians to have operations, only five are known to have done so, while in a gynecological clinic every one of the twenty patients referred to social service had the operative treatment advised and came back to the doctor, so that he could see the results. The part which the social worker played with these patients was one of added persuasion to that of the doctors; seeing relatives and friends in regard to it; arranging for the family's care during the patient's residence in the hospital; seeing that those patients requiring convalescent care secured it, and that work was adjusted to the post-operative condition either temporarily or permanently.

In a study of twenty-one children with vaginitis it was found that they belonged to families consisting of sixty-three members. Through the efforts of social workers forty-six of these were examined, the doctors finding in these forty-six, eleven other cases of infection. All thirty-two cases remained under treatment until discharged,

and those of school age were excluded from school, with the knowledge of the school and health authorities. When one reads in the recent studies on vaginitis the recognition that much of the so-called stubborness to treatment and many recurrent cases are probably due to reinfection from some uncontrolled source, and not, as previously accepted, to the idiosyncrasy of the disease, these figures take on a new significance, and they also bring up the question, Can the average clinical physician treating vaginitis have, without some follow-up system, the knowledge and control of his patients necessary to the cure and prevention of this disease?

Just what proportion of all treatment prescribed is secured, the usual records of an out-patient department do not tell. However, in relation to equipment ordered—as, for example, orthopedic apparatus or glasses, for which the out-patient department retains the measurements—very definite figures are obtainable. Previous to the follow-up work of a social worker in an eye clinic, as high as 60 percent and never lower than 30 percent of the patients for whom glasses were ordered failed to return for them. With the help of a social worker this number has fallen to 4 per cent. Thus the addition of a social worker to a clinic is an economy when one considers the time it takes for experts to test eyes, and the results to the eyes and to the working efficiency of patients needing glasses.

To sum up, the findings of these studies and experiments seem to show three things to be true: first, that social service is one means of preventing certain uneconomic features of out-patient treatment—to-wit, those involving the irregularity of attendance, the uncontrolled channels for the spread of infection, and the failure to carry out treatment prescribed; second, if the social problems of an out-patient department are to be known with anything like completeness, and met with the least waste of effort, social workers should be placed in the clinic where they are easily accessible to both physician and patient; third, such study is a means of knowing in just what degree the efficiency of an out-patient department is increased by the addition of social service. Only by such cold analysis in terms of large numbers can fallacious arguments be prevented. Social workers have much to learn from the scientific spirit of medicine. A physician does not argue a form of treatment to be good or bad from its reaction in one case, but from its proportionate results in a hundred or more cases. So social workers are striving to make for themselves a place in out-patient service not by recounting successful individual cases, but by demonstrating, in relation to the whole work of an out-patient department, that they can and do contribute to its economy and efficiency.

In closing I wish to emphasize the fact that in America social service in an organized form is but eight years old. A beginning only has been made, and each year does and should see changes in its program. Also, as the needs of one hospital are quite different from those of another, so should the character of social service vary in each institution, and, again, in each city, according to its local charitable and health problems. Social service is a measure whose value depends on two factors—the training and experience of those doing work and the use made of it by administrators and physicians.

INTERNATIONAL HOSPITAL FOR TOKIO.

Funds Aggregate $500,000, Raised in America and Japan —Will Have 200 Beds.

There is a most promising outlook for an international hospital at Tokio, Japan. Dr. R. B. Teusler, head of the present 80-bed St. Luke's Hospital, who has been in this country for the past six months raising money for the very great extensions contemplated, has returned to Japan with $210,000 of the necessary $500,000 assured.

An exceptionally strong committee has been organized in New York, composed of the following well known people: Lloyd C. Griscom, former ambassador to Japan, president; William Jay Schieffelin, vice-president, and John S. Rogers, secretary; executive committee and members of the board, Griscom, Rogers, Schieffelin, James A. Scrymser, Lindsay Russell, Dr. Lyman Abbott, ex-Ambassador Larz Anderson, Martin Egan, Charles W. Eliot, A. S. Frissell, John Esher Knobel, Seth Low, Hamilton Wright Mabie, W. Fellowes Morgan, ex-Ambassador Thomas J. O'Brien, E. E. Olcott, George Foster Peabody, George Wharton Pepper, John S. Rogers, Charles H. Sherrill, Melville E. Stone, Willard D. Straight, Samuel Thorne, Jr., George Zabriskie, and J. G. Zachry.

The proposal to establish a department for original research into oriental diseases is said to have interested Mr. Rockefeller, and he may extend substantial aid in this direction. Among the large contributors to the fund in Japan are Baron Goto, a member of the cabinet, who will give $25,000, and several associates who have promised to raise $75,000 more.

The new hospital is to include 150 beds, a training school for nurses, a post-graduate course for physicians, and a special laboratory for the investigation of oriental diseases.

St. Luke's was founded as a missionary hospital in 1901, and at present has 80 beds, ten Japanese physicians, three foreign physicians, a nurses' training school of thirty nurses and six district nurses, and is the only institution doing district nursing work in Japan.

The medical professors of the Imperial University in their several branches are consultants to the hospital, and foreigners visiting and residing in Tokio have the privilege of attendance for treatment.

A national council of women to augment the work of the men has also been organized, of which Mrs. George Wharton Pepper is chairman and Mrs. Charles Randall Pancoast secretary and treasurer.

ORGANIZATION OF THE DISPENSARY OF THE JOHNS HOPKINS HOSPITAL.[1]

Out-Patient Service Follows Patients Into Their Homes—Visiting Nurses Important Factor—Stenographic Histories Give Value to Work—Business Details Enter in Technic.

By RALPH B. SEEM, M. D.
ASSISTANT SUPERINTENDENT JOHNS HOPKINS HOSPITAL.

PAPER II.

THE dispensary, or out-patient department, is a very vital part of the hospital, for it is here that patients come seeking advice, either in the early stages of acute disease which requires hospital treatment, or here they are treated for a longer or shorter period of time for minor ailments or for chronic, but not bed-confining, diseases. Furthermore, here it is that students of the Johns Hopkins Medical School first come in contact with patients. It has its own one-story building, connected by a closed corridor with the general hospital.

The director, in accordance with the rules of the hospital, must be a physician. He is one of the assistant superintendents, and is selected by the superintendent with the approval of the Board of Trustees. The director has general supervision and direction of all departments of the dispensary. They are seven in number, as follows: The department of medicine, with four subdivisions—general medicine, clinical neurology, Phipps' tuberculosis, gastro-enterology; the department of surgery, with seven subdivisions—general surgery, ophthalmology, genito-urinary diseases, laryngology and otology, dermatology, orthopedic surgery, x-ray; and the departments of pediatrics, psychology, gynecology, obstetrics, and social service.

Each department is under the supervision of the chief of the corresponding hospital service. He is represented in the dispensary by division chiefs, who are assisted by physicians in charge and as many assistants as are necessary. All are members of the teaching staff of the Johns Hopkins Medical School. The chief of each division nominates his various assistants, who must also receive the approval of the medical board and the trustees of the hospital. These assistants can work in the dispensary only after being appointed by the hospital trustees, but they are appointed as teachers (instructors, assistants, etc.) by the Johns Hopkins University, since the medical school is an integral part of the university. In brief, this is the organization which handles the patients who come for treatment.

When a patient comes to the dispensary for the first time, he is met by the doorkeeper, who guides him to the director, who has a desk in the center of the waiting room. The director, after questioning him briefly and determining in his own mind that the applicant is a suitable person for treatment, gives him an unfilled admission card, the color of which, as well as the printed matter, designates the proper department. He now passes to the recording clerk, who collects a 10-cent registration fee and typewrites the patient's name, the date, and the admission number on the card, and the same data, with some social data, on the history card. After these preliminary steps the patient is directed to the proper department for treatment, where the physician examines him and fills out the history card. The patient retains only his admission card.

On a return visit the patient presents his admission card, and is directed to a clerk who records this number and sends the latter to the record gallery to secure the history. The clerk collects the fee for the visit (10 cents is charged for each visit), and issues a numbered pass to the patient, who then goes to his department. The passes are numbered serially for each department. This pass is taken up by the examining physician, and serves as a census record of the number of patients seen every day, and also indicates to the physician that the patient has been passed by the clerk at the door.

A patient who has lost his admission card is directed, when he returns, to a special seat, where he is interviewed by one of the record clerks, who looks up the registration, and a new card with the original number is issued, for which a fee of 5 cents is charged.

The histories from all departments at the end of the day are collected from the examining rooms and filed by number in the central record room. A name index card and a diagnosis index card are made out for each patient, thus securing a cross index. When a patient is being treated in several departments, a history sheet for each department is added to the original history and the entire history accompanies the patient to each department. Each department sheet for any one patient has the same number. The histories are carried by a messenger to the different departments.

All departments are open each day of the week,

[1]Second of a series of eight papers on the organization and administration of a large general hospital, prepared under the direction of Dr. Winford H. Smith by his associates in Johns Hopkins Hospital.

except holidays and Sundays. Some of the departments are open in the morning and others in the afternoon, as our accommodations are not large enough to have all departments in operation at one time. None of the departments are open at night.

After a patient has been examined and he has received a prescription, he goes with it to the dispensary pharmacy. For each prescription has been filled. In this way the confusion which arises from similar names, and the chance of giving one patient the medicine intended for another, is avoided. This cash register gives an absolute check on the moneys taken in. When the druggist turns in his cash at the close of the day, the prescription stubs are examined to see that the sequence of numbers is complete, thus controlling all prescriptions filled by the druggist. As the

THE JOHNS HOPKINS HOSPITAL DISPENSARY. No.

Name ..... Age ..... Date .....
Address ..... Sex ..... S. M. W.
Race ..... Birthplace ..... Occupation .....

MEDICINE.

DIAGNOSIS:

.....

.....

.....

History taken by .....

Complains of .....

.....

Fig. 1. History card—Size, 6¼x9¾ inches; has 22 lines for "complains of."

there is a charge of 10 cents, except for a few expensive drugs, which are sold at cost. The druggist takes the prescription from the patient, introduces it into a cash register, especially designed for us, which stamps on the prescription and its duplicate stub a number, the date, and the price, and whether it is free, to be charged, or paid. It also designates the pharmacist handling it. In this same operation the duplicate stub is cut off and is given to the patient, who must present it to the druggist when the prescription machine adds the price registered for each prescription, the total must tally with the amount of cash in the drawer, plus the total amount for free and charged prescriptions. Whether a patient is to be treated free is determined by the director. There are no fees for special treatment, such as x-ray, for Wassermann, or other blood tests.

In the third term of the second year of their medical school course, students begin their clinical work in the dispensary and continue it throughout the third and into the fourth year.

The Johns Hopkins Hospital Dispensary

℞

Name M. D.

Do not Write Beyond this Line.

5082 DEC 19 GP00.10

Present this Ticket for Medicine when Number is called.

5082 DEC 19 GP00.10

Fig. 2. Prescription blank—Size, 7¾x3¾ inches; the duplicate stub, which is cut off at the dotted line by the register, is retained by the patient.

They take the histories of patients, and examine them under the supervision of the doctor in charge of the department, or one of his assistants. The students serve as surgical dressers and assist in giving the various forms of treatment. They make laboratory tests under the direction of the doctor in charge of the laboratory, who is a member of the medical school staff and gives the course in laboratory diagnosis.

Of the patients who are registered in the obstetrical department, primiparæ and those presenting possibilities of a difficult labor are advised to enter the hospital for their confinement. The others are cared for in their homes. All patients are asked to return to the dispensary for observation at regular intervals, or sooner if untoward symptoms arise. The cases to be attended in their homes are asked to send word to the hospital by a man as soon as labor pains begin. This messenger is given the bags containing the obstetrical outfit to carry to the patient's home. A doctor, a student, and a nurse respond to each call. The student visits the patient daily for ten days after confinement, and longer if the patient is not doing well. The nurse, however, makes daily visits for only three days following the confinement. (We plan to increase the number of nurse's visits.) After this, if the patient's condition is satisfactory, she is referred to the Babies' Milk Fund Association of Baltimore for further care and direction.

The department of social service has one worker in each of the following departments: orthopedic, pediatric, general medicine, Phipps' tuberculosis, and two in psychiatry. Each worker devotes all of her time to the patients of her particular clinic.

As to the general force required to operate the dispensary, aside from 135 physicians and surgeons, there are a director, a physician in charge of the laboratory, five graduate nurses, eleven pupil nurses (a number which varies somewhat), three stenographers, six clerks, one doorkeeper, two messengers, one orderly, and seven cleaners. About 20,000 new patients apply for treatment each year, and they make about 80,000 visits.

IOWA'S FIRST COUNTY HOSPITAL IS A PRONOUNCED SUCCESS.

Generous Support by All the People of Hospital Provided Out of General Taxes Demonstrates Wisdom of Law—First Year's Work Most Promising.

By MISS AMY BEERS, Fairfield, Iowa, Superintendent.

IOWA is distinguished by the fact that it was the first state to offer any solution to the problem of caring for the sick in rural communities. The county hospital law, written by Dr. E. E. Munger, of Spencer, Iowa, and passed by the Thirty-third General Assembly, provides that a public hospital may be built in each county of the state. This hospital system is somewhat similar to that of the public schools, the funds for the hospitals being procured by taxation.

Through the press, by lectures, and by the circulation of printed matter the people of Jefferson county were informed as to the nature of the hospital law and the advantages and need of a home hospital, and on March 27, 1911, a special election was held to submit the question to their vote. By a majority of 493 votes a one-half mill tax for ten years was levied to furnish funds for a county hospital. This taxes the average taxpayer about 3⅓ cents per month for ten years. Too much credit cannot be given to the physicians, nurses, ministers, and numerous private citizens who devoted unlimited time and energy to exploiting the hospital movement, as many people had old prejudices and misguided ideas to be overcome.

On April 4, 1911, the seven hospital trustees (laymen), appointed by the Board of Supervisors, met and organized, and on August 10, 1911, began building the Jefferson County Hospital at Fairfield, the geographical center of the county, the county seat and the largest town. The appointed trustees served until the general election, when the offices were filled in the same manner as all other county offices. The trustees have absolute authority, hold monthly meetings, and decide all questions relative to the hospital government.

Under the original law the Board of Supervisors was permitted to appropriate 5 percent of the general fund of the county for maintenance of the hospital, but an amendment passed in 1913 provides that an annual tax, not to exceed 1 mill, may be levied, the amount of the tax being determined by the Board of Supervisors in accordance with the requisition presented by the hospital trustees after their August meeting.

The tax levy yielded $27,000, but this amount proved inadequate for the type of building desired, and an additional $4,200 was subscribed by public-spirited citizens of Fairfield. Suitable furnishings and splendid equipment were made possible by the generosity of individuals and societies.

Dedication exercises were held on September

17, 1912, and the hospital was open for inspection. Dr. Munger delivered a convincing address on "Hospitals in Rural Communities," and impressed the audience with the breadth of the health problem, showing how the county hospitals should prove economic and educational institutions.

Fig. 1. Jefferson County Hospital—Front and side view.

Thousands of Jefferson County residents attended the exercises and visited the building, bringing generous donations of home-canned fruits and other delicacies, expressing a personal interest in the welfare of the hospital, surprise at the modern equipment, and a desire to render assistance.

able demonstration of the results of scientific care. During the first year 252 patients were admitted, a daily average of 9.26 was maintained, making 3,522 days of service; 19 babies were born, and 133 patients had surgical operations performed. At one time in September 25 patients were receiving care, this being the capacity of the hospital. The year's earnings amounted to $8,500 while the expenses ran slightly over $10,000. During three months of the year the earnings exceeded the expenses, proving that the hospital will be almost self-maintaining when well established with a census of 15 to 25 patients.

A training school for nurses, organized November 1, 1912, and operated in connection with the hospital, offers a three-year course recognized by the Iowa State Board. A nine-room cottage, admirably located two blocks from the hospital, has been rented and furnished, making very comfortable living quarters for the two head nurses and five pupil nurses. The students are earnest and well qualified to succeed in their chosen profession.

Ladies' auxiliaries throughout the county rendered valuable assistance in a material way as well as in securing the good will of the people—

Fig. 2. Float used on Old Settlers' Day, October, 1910, to bring the hospital day before the public.

At 9 a. m., October 2, 1912, the hospital was opened to admit patients, and the first case was waiting at the door—a child of 2 years. If advertising were ethical, "before and after" photographs, with previous history of this first patient, would make excellent material, being a remarkable demonstration of the results of scientific care. During the first year 252 patients were admitted, a daily average of 9.26 was maintained, making 3,522 days of service; 19 babies were born, and 133 patients had surgical operations performed. At one time in September 25 patients were receiving care, this being the capacity of the hospital. The year's earnings amounted to $8,500 while the expenses ran slightly over $10,000. During three months of the year the earnings exceeded the expenses, proving that the hospital will be almost self-maintaining when well established with a census of 15 to 25 patients.

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Ladies' auxiliaries throughout the county rendered valuable assistance in a material way as well as in securing the good will of the people—one branch furnished a diet kitchen and another bought an ambulance, which tends to illustrate the active interest taken and the recognition given to the institution. It is rather amusing to hear the frequent question, "How *did* we manage without the hospital?"

With such a favorable outlook after one year's operation, we can confidently hope for steady growth and development and the time when all the sick will not hesitate about the advisability of seeking hospital care.

The hospital is open to all legal practitioners in the county, all having equal privileges. An advisory committee of three physicians, chosen by the medical association, confers with the hospital trustees on matters of mutual interest.

The building is well built, conveniently planned, with excellent lighting and heating facilities. The equipment is modern and quite complete. Some unusual features for such a "small" hospital in a sparsely settled district are the $1,700 x-ray outfit, the large sun porches fitted for use during the entire year, the provisions for laboratory work, the delivery room for obstetrics, the electric elevator, the outside telephone connections in each room, the light signal system for calling the nurse, the apartments for the superintendent, and the ideal location, with a beautiful country view on every side. While much remains to be accomplished, everyone in touch with the work feels gratified by the success of this first step toward the solution of the health problem in rural Iowa.

EFFICIENT METHODS IN COST ACCOUNTING AND HOSPITAL FINANCES.[1]

Simplified System Permits Comparisons With Other Hospitals, and One Year With Another—Voucher System for Purchases and Single Pay Roll Saves Time.

By DR. WILLIAM O. MANN,
SUPERINTENDENT OF THE MASSACHUSETTS HOMEOPATHIC HOSPITAL, BOSTON.

THE subject of hospital finances and cost accounting has been so thoroughly covered at previous meetings of this association that I feel that very little can be added to what has already been written.

The New York hospitals, a number of years ago, adopted a system of financial accounting which has been copied by numerous other institutions, so that there is now an opportunity among the larger hospitals to make a comparison between the costs of different departments.

Some institutions have attempted to ascertain the detailed cost of each department—for instance, the cost per 100 pieces in the laundry; the cost of feeding a nurse, as compared with one of the help; the cost of feeding a private patient as compared with a ward patient. I can see that it may be a good thing for the individual hospital to check up the detailed cost from month to month and from year to year, but I do not believe that it follows that, because one hospital can do a certain thing at a certain cost, the one across the street from it can do the same thing.

Some hospitals cater to a large number of paying and private patients, while others cater to only the free class, as in a municipal hospital. It stands to reason that the food cost in the smaller, semi-private hospital is larger than in the free hospital; that the nursing cost per day will also be larger, because the paying patient and private room patient demand and receive more than the free ward patient. I believe in a system whereby one can know the monthly cost per patient and the monthly cost of food per inmate. If this is done, one can check up with the preceding months and preceding years and make comparisons with his neighbors.

It is well to make a check on the laundry, because if one finds that it costs $2.50 per 100 to do the laundry in the institution, while it can be done outside for $1.50 per 100, it seems poor business policy to continue to maintain a laundry. The large commercial plants now have the laundry business down to a science, and are in a position to do it fully as cheaply as can be done by an institution.

At the Massachusetts Homeopathic Hospital we try to check up the cost of different articles by months and years, and we use what we call a comparative expense book for that purpose, an illustration of which is before you (Fig. 1). This book has a column for practically every item that is purchased. Each column shows the months of the year, and has a space for four years opposite each month. You thus have the comparative cost or comparative amounts of supplies before you for four years. It means about an hour's work for two people once a month to analyze the bills. The per capita cost is figured every month, and the food cost per inmate is also figured monthly and placed in this comparative expense book, where it is easily available.

We consider this book a valuable one, as we are able, from year to year, to compare the cost of the different supplies and to know whether we are becoming more wasteful or more economical.

We have also simplified charging supplies to the different outside departments and to the

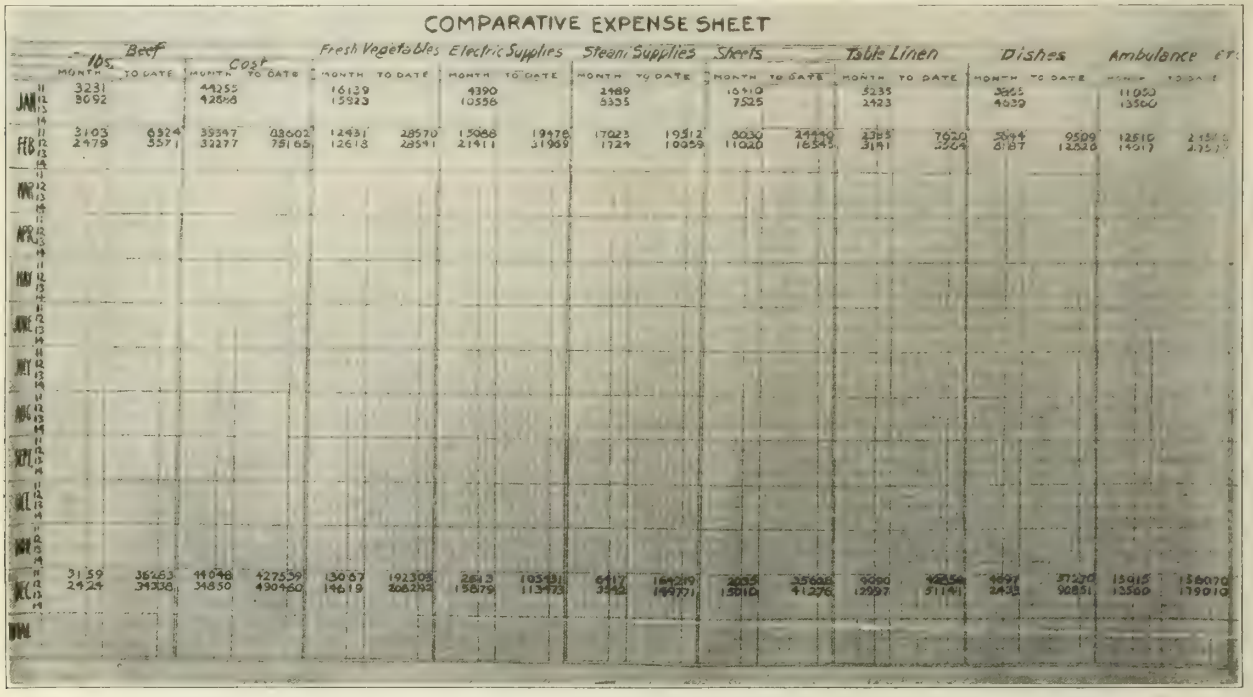
[1]Report of the Committee on Cost Accounting, read before the American Hospital Association, Boston, August 29, 1913.

wards. One requisition weekly is originaly made out by the head nurse, or the one in charge of a department. You will notice by the illustrations before you that there is a column for quantity, one for the name of the article, and a dollar-and-cent column. These requisitions are approved by the superintendent and sent to the proper department to be filled. After they are filled they are returned to the office, where a clerk prices up the articles and totals them at the bottom. They are then filed, and at the end of a month the totals are added together and each department or ward is charged with what has been furnished. This system saves a great deal of duplicate writing, and we find it very simple and requiring no extra labor.

York has adopted a system of order requisitions, receipts for supplies and material, and storeroom requisitions which is along the line that I have mentioned that has been carried on for some time at the Massachusetts Homeopathic Hospital.

From Dr. W. H. Smith, of the Johns Hopkins Hospital, I have received the following:

"We are installing a cost clerk, who will be located with the chief storekeeper, and by whom all requisitions will be charged up against the various departments of the hospital, including food—that is, the raw material, such as eggs, milk, etc.—which is sent directly to the wards and other departments. Meats and other foods sent to the main kitchen will be charged up pro rata. The nurses' home, having its own kitchen, will be charged directly for everything it gets. I feel that by this system of charging directly to each department everything except


COMPARATIVE EXPENSE SHEET

Beef — Lbs. / Cost; Fresh Vegetables; Electric Supplies; Steam Supplies; Sheets; Table Linen; Dishes; Ambulance

	Beef Lbs. Month	Beef Lbs. To Date	Beef Cost Month	Beef Cost To Date	Fresh Vegetables Month	Fresh Vegetables To Date	Electric Supplies Month	Electric Supplies To Date	Steam Supplies Month	Steam Supplies To Date	Sheets Month	Sheets To Date	Table Linen Month	Table Linen To Date	Dishes Month	Dishes To Date	Ambulance Month	Ambulance To Date
JAN 11	3231		44255		16129		9390		2589		10910		5235		3925		11050	
12	3092		42898		15923		10556		5335		7525		2423		4039		13560	
13																		
14																		
FEB 11	3103	6324	39347	83602	12431	28570	15088	19478	17023	19512	6030	29440	2385	7620	3944	9509	12510	24060
12	2979	3571	32277	75165	12613	28591	21411	31989	1729	10959	11020	16545	3141	5564	5187	12520	14017	27577
13																		
14																		
MAR 11																		
12																		
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MAY 11																		
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JUNE 11																		
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JULY 11																		
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AUG 11																		
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NOV 11																		
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DEC 11																		
12																		
13																		
14																		
	31159	38263	419048	4275539	130657	192308	2843	103491	9417	164219	2035	35606	3090	42254	4697	37220	13015	156070
	2924	34338	34850	490460	14619	206292	15879	113773	3242	19477	15010	41276	12997	51141	2425	90851	13560	179010

Fig. 1. Comparative expense sheet.

During the past summer we have been able to figure the cost of our laundry, and we find that, by including the wages of employees, the board of employees, electricity, gas, steam, water, insurance, and depreciation, the cost per 100 pieces is $1.34. At the Massachusetts General Hospital the cost of the laundry is $1.29 per 100.

At the Massachusetts Homeopathic Hospital we have for a number of years used voucher checks in paying our bills, which means that we do not require receipted bills from the firms with whom we deal, and I understand this system is being adopted very generally by other hospitals.

We have also found that by discounting the bills on a ten days' basis we have made a saving in the year 1912 of over $800.

The Presbyterian Hospital in the city of New

the cooked food, and charging each department pro rata for the number of people in that department, either employees or patients, we will have eliminated as much of the guesswork as is possible, and that we have brought down the question of cost accounting to a practical basis without carrying it too far, which I think would happen if we attempted to gauge the prices of the various cuts of meat going to the different departments and to weigh out the vegetables, etc., from the main kitchen."

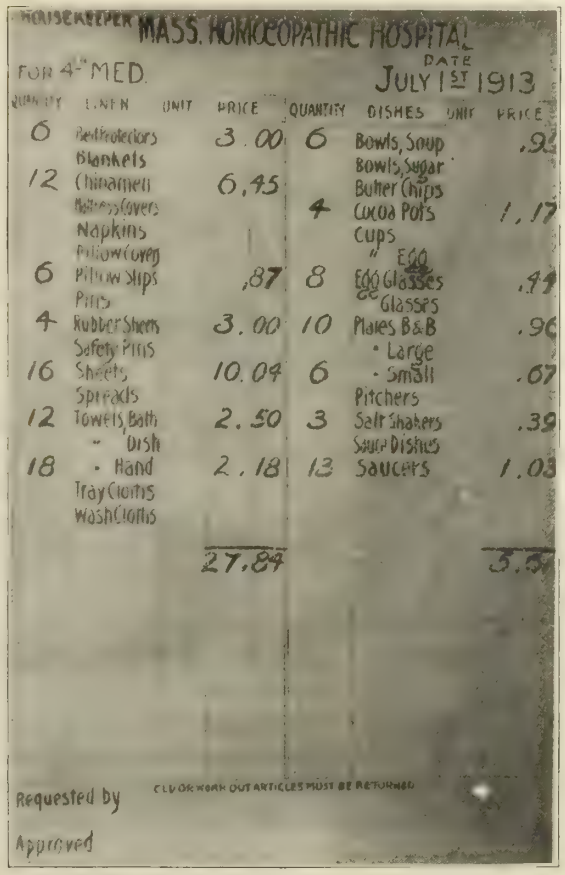
Dr. Howland, at the Massachusetts General Hospital, writes as follows:

"*Bills Payable.*—Bills are paid as heretofore at various intervals during the month in order to take advantage of the discount offered by dealers for prompt payment. In the past a recapitulation of all bills paid each dealer each month was made on a form of voucher and this voucher sent to the dealer at the end of the month, to be receipted and returned, after which it was filed with the bills as evidence of payment. These vouchers were fre-

quently held by the dealers, and this made it necessary to write for them in order to complete the files. Preparing and mailing these vouchers, together with checking their return, consumed considerable time and also cost the hospital about $5 a month for postage. These vouchers have now been abolished as entirely unnecessary, thus making a saving in labor and about $60.00 a year in postage. The canceled check is now considered by the leading business houses as sufficient receipt.

"*Bills Receivable, Patients' and Doctors' Accounts.*—All money from whatever source passes through the hands of the cashier, and by her is distributed on a daily sheet to the various departments to which it belongs. This sheet is balanced each day, and a bank deposit slip to correspond in amount with the daily sheet is made.

"A petty cash fund is carried by the cashier, from


HOUSEKEEPER'S MASS. HOMOEOPATHIC HOSPITAL

FOR 4TH MED. DATE JULY 1ST 1913

QUANTITY	LINEN	UNIT	PRICE	QUANTITY	DISHES	UNIT	PRICE
6	Bedprotectors Blankets		3.00	6	Bowls, Soup Bowls, Sugar Butter Chips		.93
12	Chinamell Pillowcovers Napkins Pillowcovers		6.45	4	Cocoa Pots Cups " Egg		1.17
6	Pillow Slips Pins		.87	8	Egg Glasses Glasses		.44
4	Rubber Sheets Safety Pins		3.00	10	Plates B&B · Large		.90
16	Sheets Spreads		10.09	6	· Small Pitchers		.67
12	Towels, Bath " Dish		2.50	3	Salt Shakers Sauce Dishes		.39
18	· Hand Tray Cloths Wash Cloths		2.18	13	Saucers		1.03
			27.84				3.53

Requested by

Approved

CLEAN OR WORN OUT ARTICLES MUST BE RETURNED

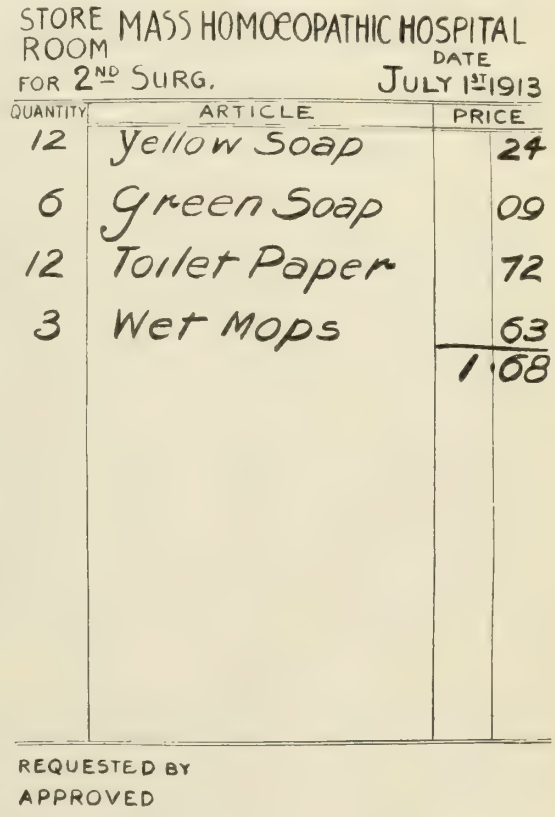
Fig. 2. Housekeeper's order blank.

which are paid all small cash bills, which are presented at the office. This fund, when depleted, is made good by check and entered in voucher register as any other bill. This method reduced the petty cash entries from one hundred to one hundred and twenty-five down to four or five. A receipt is now taken for every cent paid out, and these are filed with the bills.

"*Pay Roll.*—This was formerly handed in on the morning of the twenty-seventh of the month by the heads of departments, who anticipated that everyone would work the remaining three or four days. In the event of anyone being absent after the pay roll was handed in, a slip was sent to the office stating that the employee had lost time, beginning at a certain time. If this employee returned to work before the first of the month, another slip was handed in showing the time of returning to work. The names of employees were all copied from the sheets received from departments onto another sheet, on which was entered the total wages due, and this sheet was signed by the employee.

"Our new sheets are filled in by the department heads, showing the name, position, days lost, days employed, and rate. The total wages are figured in the office and entered directly onto the sheets received from the departments. This saves copying over 400 names, which in itself takes considerable time. The pay roll is now handed in the last day of the month, which does away with the numerous slips concerning lost time. The information contained on this sheet regarding days lost and employed, deductions, etc., is of much assistance to the paymaster, as he can readily make explanations to any employee who believes that his wages are incorrect, where formerly it was necessary to send them to the office for explanation.

"*Journal and Ledger Accounts.*—The journal entries have been abolished as serving no useful purpose. Ledger


STORE ROOM MASS HOMOEOPATHIC HOSPITAL

FOR 2ND SURG. DATE JULY 1ST 1913

QUANTITY	ARTICLE	PRICE
12	Yellow Soap	24
6	Green Soap	09
12	Toilet Paper	72
3	Wet Mops	63
		1.68

REQUESTED BY

APPROVED

Fig. 3. Store room order blank.

accounts which were kept with the various items shown on the financial statement, and which are used solely for the purpose of getting a trial balance every quarter, have been discontinued, and in place of these a recapitulation is made in the back of the debit cash book and voucher register."

At the Massachusetts Homeopathic Hospital we have also come to the conclusion that these journal and ledger accounts are of no use, and we have done away with them.

It is well for every hospital to adopt a simple form of cost accounting or comparison of costs of different articles purchased in order that they may know just how much they are spending for each item, and in order that they may compare

the cost of these items with what other hospitals are doing. If one hospital finds, for instance, that the medical and surgical supplies per patient are costing more than at several other hospitals, it is wise to find out whether the buying is being done at a disadvantage, or whether the supplies are being used too generously. This is a comparison that should be made, I believe, by every hospital annually in order that the management may know just what is being done.

One can readily see that the cost of heat and light will vary according to the construction of the individual hospital. A hospital on the pavilion plan will cost more to heat than a hospital built on the block plan, but with the medical and surgical supplies, laundry, housekeeping supplies, etc., a comparison can easily be made.

For anyone who is interested in the detailed accounting of each department, I wish to refer to a book just published during the year 1913, "Cost Accounting for Institutions," by William Morse Cole, assistant professor of accounting in Harvard University. This book goes into detail, and shows a very elaborate system of cost accounting. Personally, I do not believe that it is necessary or wise to go into this detail, because the results obtained do not offset the extra cost of the bookkeeping and clerical hire.

THE ROENTGEN RAY DEPARTMENT IN THE SMALL HOSPITAL.

Machine Not the Most Important Feature of Equipment—Accessories Quite as Necessary—Full Complement to Do Good Work—List of Essentials.

By E. W. CALDWELL, M. D., New York.

IT is no easy matter to plan or to give advice for the equipment of a roentgen department for a large hospital, but it is much more difficult to know what to recommend to those about to equip a small hospital and one is tempted to quote Punch's celebrated advice to those about to be married—"don't."

The old adage to the effect that anything worth doing is worth doing well is true at least for those things that have to do with the healing art, and especially of roentgen work, which is one of the things that may be useless or even dangerous unless it is well done. Unnecessary suffering, deformity, or loss of life may result either from error or from failure in roentgen diagnosis.

In roentgen therapy equally distressing results may follow sins either or omission or commission. The writer has seen a number of patients who have been disfigured or disabled for life by incompetent therapeutic applications of x-rays. We should not forget that incompetent roentgen work may be quite as dangerous as poor surgery or the incompetent use of poisonous drugs. It should be self-evident that x-ray examinations and treatment, like any other medical examinations or treatments, should be done by persons of medical training who have acquired practical knowledge of the special subject, and should not be intrusted entirely to photographers, however skilled they may be in photographic technic.

There is still much to be learned about the interpretation of x-ray shadows, and it would be well if hospitals, large and small, gave more assistance in the development of this art by cooperating with roentgenologists who have suitable training and ability for scientific work.

A reliable roentgen department is a distinct addition to the armamentarium of a hospital, and in many cases gives valuable help which can be obtained in no other way. Reliable x-ray work is unfortunately expensive, costing at least twice as much as the kind of work usually done in hospitals.

Cheap roentgen work is almost invariably incompetent work, and the comparative inefficiency of the roentgen departments in most hospitals, great and small, is due largely to inadequate provision for expense of equipment and maintenance. In the less difficult x-ray work, such as the examination of bones and joints, satisfactory results may be obtained with a comparatively cheap and simple equipment, but elaborate and expensive equipment is important where much difficult work is to be done.

No hospital is too small to do good work, both in diagnosis and treatment, if it can devote 600 or 800 square feet to an adequately equipped plant and provide for its intelligent direction and maintenance. I should, however, think it not advisable to install roentgen ray apparatus in any hospital unless, first, some competent medical graduate will take an active interest in the work; second, unless floor space of at least 450 square feet can be provided for the equipment; and, third, unless an ample sum of money is available, both for equipment and maintenance. The medical officer in charge of the roentgen department should preferably be one who is devoting all of his time to x-ray work.

In many small hospitals this degree of specialization will not be possible, and the roentgen work will fall naturally to one who may combine with it pathological or clinical laboratory work.

It is true that certain metropolitan hospitals have not yet abandoned the old picture shop idea of roentgen diagnosis, and employ only electricians or photographers for the x-ray examination and treatment of patients. Some of them even take advantage of their immunity from malpractice suits to exploit the incompetent work of these artisans for profit by selling so-called x-ray pictures to all who apply. Through immunity from taxation, hospital discounts, the use of cheap help and cheap materials, and the misappropriation of gifts of apparatus and money intended for charity, they are enabled to sell their inferior work in competition with practicing roentgenologists at a price less than the actual cost of reliable service. This obviously unethical practice is not recommended to any hospital board that desires to give efficient service, and to deal honestly and fairly with its own patients or with the public, in the matter of roentgenology.

In hospitals where only occasional use is made of x-rays the whole equipment for diagnosis and treatment can, if necessary, be placed in one room, which should contain at least 250 square feet. The only additional space absolutely necessary will be about 100 to 200 square feet for dark room and about the same amount for record room, filing cases, and illuminating boxes for plates. It would be better to have still another room for the generating apparatus and its controlling device. This room may be separated from the patient's room by a protective partition provided with lead glass windows and lined with lead. With this arrangement the patients are not disturbed by noise and sparks of the machinery, and the operator may make exposures in safety while keeping the patient, the x-ray tube, and the meters under close observation.

The arrangement of the rooms, as well as the selection of the equipment, should be left entirely to the one who is to take charge of the work. Architects seldom provide in hospital plans either sufficient space or a practical arrangement of rooms for roentgen work.

In the selection of equipment undue attention is usually given to the electrical apparatus and too little to the accessory appliances, such as tube holders, tables, protective screens, aprons and gloves, meters, dose measuring devices for treatment, etc. The manufacturer with a machine to sell usually gives the false impression that his machine is a complete x-ray outfit in itself.

The appliances absolutely essential for production of x-rays are the x-ray tubes and some device for delivering electrical currents averaging from one to fifty or more milliamperes at a potential difference of from 60,000 to 90,000 volts.

The x-ray tubes are perhaps the most essential and the most important part of the equipment. Without good tubes it is impossible to obtain good work. It is desirable to have at least ten or fifteen good tubes, and to keep this number by replacing every tube as soon as it is broken or worn out. This makes it possible to select for different kinds of work the tubes which are most suitable. The practice will prove an economy in the long run because the life of x-ray tubes is much longer when they are not overworked.

It will be found a great convenience to adopt some standard and stick to it rather than to assemble a varied collection of tubes of different styles, makes, and sizes. For most work I prefer tubes with seven-inch bulbs, provided with heavy copper targets and tungsten buttons at the focus point. For fluoroscopic work and for treatment some of the water-cooled tubes are very satisfactory, but I think they are not necessary.

Uniformity is desirable not only in the size of the tubes, but in the type of regulator with which they are supplied. Two types of regulators may be considered. The spark regulator, which has been in common use for many years, is perhaps the most popular and the most reliable. Recently the mercury seal air regulator of D. MacFarland-Moore has been brought to a practical degree of efficiency for x-ray tubes by Heinz, Bauer, Baker, and others. The osmo regulator is less convenient than either of the two mentioned, though it is still used by a few makers. The cost of fifteen good tubes will be between $300 and $400. The best American-made tubes are much superior to those made abroad.

The selection of the electrical generator will depend somewhat on the character of the electric lighting or power circuits available and on the class of work which it is desired to do. Practically we may consider only two types—the induction coil with interrupters and the transformer with rotary rectifier, or the so-called interrupterless machine.

For roentgenographic work the so-called interrupterless machines are preferable, and this is especially true if only alternating current is available. These machines require less adjustment than the induction coil apparatus, and are easier to handle. The time of exposures is somewhat less with these machines than is usually obtained with induction coils.

For all work in which it is desired to operate x-ray tubes continuously for a considerable length

of time the induction coil with mercury jet or mechanical interrupter is preferable. Such an outfit is more satisfactory for fluoroscopy and for some roentgen therapeutic work than any interrupterless machine I have seen. The same induction coil operated with an electrolytic interrupter may be used also for fairly rapid roentgenographic work. The ideal arrangement is, of course, to use the induction coil with mechanical interrupter for fluoroscopy and other work requiring continuous running of tube, and to have an interrupterless machine in addition for making the plates. A very good induction coil outfit can be bought for about $500, and most of the interrupterless outfits cost about $1,000.

The accessory appliances needed will include at least one table for radiographic work, and it is really difficult to say which of those on the market is the worst. Those which can be had from the dealers cost about $250 each.

There will be needed at least one or two tube holders, and those which carry heavy lead glass bowls to surround the tube and shut in the stray x-rays are very convenient. These may be had from different makers at prices varying from $50 to $250, according to the attachments, workmanship, etc.

If fluoroscopic work is to be done, it is advisable to provide lead cloth aprons and gloves for the operator. Some of these give very efficient protection and others practically none at all. It will be necessary to test each sample by observing whether the fluorescent screen is illuminated by rays which have passed through the protective cloth. Good aprons can be bought for about $15 to $25 each, and the gloves ordinarily cost about $6 to $7 a pair. Shields or screens of wood, lined with lead, for protecting nurses and others who frequently visit the roentgen ray room are very desirable, and these are made by practically all the dealers at prices ranging from $40 to $75. The thickness of lead should not be less than about one-sixteenth of an inch, which I think is sufficient, although many workers prefer to use lead one-eighth of an inch or even one-fourth of an inch thick.

If a special study of the heart is to be made, an orthodiagraph may be purchased, but I think this is not an essential instrument. The best ones are made abroad and cost about $250 each. For examinations of the heart, lung, and stomach it will be necessary to provide some sort of vertical fluoroscopic arrangement. This may be obtained from the different makers at prices varying from $250 to $900. My impression is that the lower-priced ones are about as effective as the more expensive ones and sometimes more convenient. None that has as yet appeared is really good. For fluoroscopy with patient recumbent there are a number of tables made with fiber or canvas tops, and provided with sliding tube holders underneath. Perhaps the best known of these is the Haenish trochoscope, which may be obtained in Germany and costs in Germany the equivalent of about $200. Some of the newer appliances, such as the orthoscope, enable one to do fluoroscopy in both the horizontal and vertical positions. These machines cost about $600.

For fluoroscopic work the best fluorescent screen is of barium platinum cyanide, which costs about 25 cents per square inch, or about $75 for a screen 14x17. The best American-made fluorescent screens have the salt held in paraffine. They are more brilliant than the foreign screens I have seen, but they are much more easily scratched than the foreign screens, which are made up with some hard varnish. The hard varnish seems to gives a coarser grain and also to cause the salt to deteriorate more rapidly than paraffine. There are two other salts used in fluoroscopic screens. One of these is a white material the chemical composition of which is a trade secret. This is much used in Germany because it is cheaper and is said to last longer. It has the disadvantage of phosphorescing or remaining illuminated after the x-rays have stopped, and I think it is in other respects not quite so good as a good American-made barium screen. All fluorescent screens should be carefully mounted with a lead glass covering to shield the observer from x-rays passing through the screen.

Besides the appliances mentioned above, there will be needed a large number of little things, such as lead numbers and letters for numbering and initialing plates, meters, dose measuring devices, and lead-lined boxes for storing exposed and unexposed plates, paper envelopes and cassettes for holding plates during exposure, intensifying screens, record books, illuminating boxes, stereoscopes and stereoscopic plate changing devices, special devices for localization of foreign bodies in the eye, etc.

The dark room equipment is a very important matter, but this can be furnished by any dealer in photographic supplies. I would recommend tank developing, with individual frames for holding plates. In 1902 I recommended that dark rooms be painted with pure red lead paint. This color is much better than black because it makes the room much easier to illuminate by ordinary light, although it reflects practically no light that will affect a photographic plate.

The cost of a fairly good dark room equipment need not exceed $250. Running water must be

available, of course, and it is well to provide an electric fan for drying plates. The ventilation of the dark room should be looked after, and in this connection I would recommend light-tight ventilators to be placed in the transoms and windows. These are furnished by makers of galvanized iron cornices, etc.

From the foregoing enumeration it will be seen that the cost of a fair x-ray equipment will be at least $2,000 or $3,000. There are some private laboratories which have cost more than $20,000.

The cost for maintenance will depend much on the amount and character of the work done. Simple work, such as examinations for fractures, foreign bodies, etc., is comparatively inexpensive, and can be done very well with cheap equipment. Examinations of the urinary tract, the accessory nasal sinuses, and especially the digestive tract, are very difficult and expensive, and for such work one needs the most perfect equipment possible.

In conclusion, I would advise that, in any small hospital the roentgen department be organized with a view to attempting only such work as it can do well, but of course it is desirable to be ready for the emergency case of any sort that may occur. Examinations of the difficult cases should, when possible, be made by an experienced roentgenologist in a very well-equipped laboratory. Treatment may be given satisfactorily with a very simple equipment, but it should never be undertaken by anyone not specially skilled in the work. The exceedingly bad repute which x-ray treatment has had in general is due largely to very incompetent work.

Finally, I should say that, for use in this country, American-made apparatus is preferable to that of foreign make, although some exceptions to this statement must be made. Some of the English and German induction coils and mercury interrupters are excellent. Certain appliances, such as the orthodiagraph, clinoscope, orthoscope, etc., are more elaborately made abroad than here. The intensifying screens of German make are perhaps a little more durable than those of American make. Until recently the best of the lead impregnated protective cloth has come from Germany.

After Florence Nightingale had returned from the Crimea, fuller of honors than any soldier who had fought there, she was asked to help clean up London, whose hospitals at the time were the breeding ground of infections of all kinds, including gangrene. She accepted the call and demanded "soap, water, and sunshine." We have followed many false gods of cleanliness since that day—disinfectants and bactericides whose name is legion—and have now found our way back again to Florence Nightingale's shrine of health, "soap, water and sunshine."

THE WHITE MAN'S BURDEN.

Some Embarrassing Things Happen When the Untutored Savage Tries to Absorb the Customs of His White Brother.

A rather unexpected hindrance to the white man's good offices in the Philippines has recently presented itself in the Bontoc Hospital, located among the Igorrotes of northern Luzon. Three natives—a young girl, a boy, and a man—were brought into the hospital at various times lately, and in each case a leg was amputated for one reason or another. Now all these unfortunates and the balance of the tribe blame the white man and his hospital for not letting them die, on the ground that they are not only a burden to themselves, but a nuisance in the community.

Social service has been set to work in all the cases, however, and the natives are to get a lesson now on the virtues of reeducation, and who shall say that the care to be bestowed on these unfortunates will not make them, even in their handicapped condition, more valuable members of the community than their limb-perfect fellows?

This curious turn in affairs, that has thus early injected the most advanced sociology into the last home of savagery, reminds one of an incident that occurred in Alaska in the early days of American domination. Far up on the Koyokuk River, under the frowning peaks of the Arctic Rockies, there dwells the tribe of the Koyokuk Indians, perhaps the best specimen of the red man, physically speaking, that remains today anywhere. Along about 1870 a few white miners found their way up into that bleak country, attracted by considerable quantities of gold that the Indians were bringing down for trade. One day an Indian killed a white man, and, as Alaska was then under the jurisdiction of the Oregon laws, the culprit was sent to Portland for trial. He saw the wonders of the white man's world and had great experiences, not the least pleasant of which was a five-year term in the Oregon penitentiary. He finally got back home, where he was the hero of the hour. Soon another white man was killed, and then another, until several men had come to grief without very much excuse for the killings. At this stage an agent of the United States Government was sent to the tribe to ascertain what the trouble was. An interpreter was taken along. At the powwow that followed, the interpreter explained the matter as stated by the chief: "He say young Indian kill white man; he go Portland. White man good friend to Indian; Indian good friend to white man. Portland good place too; plenty to eat; much noise in Portland; Indian have fine time."

Obliging Girls in Ashton.

Salem (Ore.) girls raised $10,000 for a hospital by selling kisses at $1 each. If Ashton girls had received that price for kisses distributed this year, sufficient funds would have been raised to have built a dozen hospitals, twelve miles of hard roads, and a water works system, and have left a balance of $99.98.—Ashton (Ill.) Gazette.

The new California workingmen's compensation act provides that any man hurt at private work shall be paid two-thirds of his regular wages. If his disability is permanent, he is to have 65 percent of his former wages for a period of 240 weeks, and for the balance of his life 40 percent. If he is killed, his widow or other dependent will receive a sum equal to three times his average annual earnings.

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Hospital Medical Statistics.

The financial statistics of hospitals have always received careful attention, and the efforts of superintendents, of boards of trustees, and treasurers have been unwearied to make them plain to the public and to each other. No one ought to complain of this, because it is often the crux of hospital continuance, and the tangible evidence of success and prosperity. Thanks to the efforts of Burdett in England and of Fisher and others in our own country, we have at present an excellent system of comparing the pecuniary results attained by different hospitals and the cost of the daily, monthly, or yearly maintenance of patients. We can also compare with facility the movement of population, and judge with more or less accuracy of the amount of good work which different hospitals accomplish.

When, however, we attempt to ascertain certain necessary details as to the results of the medical work, we find ourselves confronted with vague and unsatisfactory and often misleading conditions. If we attempt to ascertain from what forms of bodily disease the inmates of a given hospital suffered, and what became of them, we cannot tell from the tables, how many died, how many recovered, how many remained under hospital care, or were transferred to other services, because the data in the majority of istances are lacking. The column assigned to "unascertained diseases" is large, and the proportion between it and those devoted to ascertained diseases is quite disproportionate, and we rarely have the satisfaction of knowing what is the fate of the patients who, like the John Does and Richard Roes of the lawyers, flit in and out of hospitals.

An eminent statistician once remarked that the medical tables of hospitals were worthless because of the indefinite information which they supplied to the student, who, like the man from Missouri, wished to be "shown" the comparable results of hospitals of the same rank, presumably admitting the same forms of disease.

Hospitals consequently need new forms of tabulations to present results which may be compared and analyzed by students of vital statistics. To this end we need to employ a uniform nomenclature of disease which may be adopted throughout all hospitals. This has recently been supplied by Cressy L. Wilbur, of the Public Health Service in Washington, and his nomenclature should be promptly adopted by every hospital, large or small, in recording hospital admissions and in making the returns of deaths. There ought to be no hesitation in adopting this nomenclature, because it may now be considered official and as nearly final as such a list can be. If future changes are made, they can be added with a minimum of effort. In fact, the watchful care of Mr. Wilbur will be a guarantee that no unnecessary changes are made. The use of the new nomenclature of disease should become imperative and binding on all hospital physicians.

The next and equally important step is to so arrange the tabulations that patients may be divided by races and sexes, to show how many of each race and sex suffering from diseases like pneumonia, cardiac troubles, tuberculosis, typhoid fever, etc., have been admitted and what became of them, whether discharged as recovered, improved, or unimproved; whether they were transferred to other services; whether they died or still remained under treatment at the end of the year. In this manner the data of each disease may be spread before the reader in every table without any possibility of error. The tables will, in fact, prove themselves, table by table. The desirability of the change suggested will be evident to all.

Every hospital also should have a registrar to supervise all tabulations in order to ascertain that they are correctly and wisely made. In many hospitals the preparation of statistics is committed to a clerk who is not familiar with the nomenclature of disease and often does not appreciate the object of medical statistics. A trained medical statistician, if possible, should be secured

for this work, or, if this is not practicable, a member of the staff who has a taste for such labors should undertake it. At present many valuable vital statistics are lost, and the true work of the hospital is obscured and belittled by indefinite and worthless tabulations.

It is to be hoped that the American Hospital Association may give attention to this important matter at its next annual meeing.

HENRY M. HURD.

Sanatorium Equipment—Psychotherapy.

In previous issues we have discussed the *nature* and *methods* of sanatoriums. There remain many other sanatorium features about which more or less discussion centers, notably the *equipment* of a sanatorium for its proper work—the care of invalids. Aside from and in addition to the physical and the medical and surgical departments, on which all the work must focus, there are many subordinate departments which demand attention, not the least among them being the department of psychotherapy. Observe that this term psychotherapy is often a rather nebulous term, and the psychotherapeutic department a somewhat nebulous department. This must needs be so, for psychotherapy enters into the treatment of all disease and into the proper activities of every thoughtful specialist. One might, were one so inclined, assign all psychotherapeutic work to the trained nuerologists and alienists, but such assigning is not creditable to the intelligence of physicians, and merely demonstrates a lack of therapeutic curiosity and devotion. Later we may have some words to say on the special value to a sanatorium of a neurologist's work, but just here and now we shall point out one peculiar feature, of importance to all practitioners. We refer to the correlating of diagnostic evidence, and the guiding of the patient into an attitude of intelligent cooperation in and confident outlook on the progress and event of his own case.

Not long ago we had occasion to observe a patient the victim of tabes, multiple arthritis, and the opium habit. He was a young, clear-thinking man, and was sincerely solicitous about his own condition and prospects. He came to the sanatorium with his head full of talk about lues, girdle pains, and the "gold cure." He was studied by a competent internist, a neurologist, an orthopedist, and a surgeon. The usual tests, investigations, and x-ray examinations were made. After four or five days the internist, whose special charge he was, called together his consultants for a final talk to decide on the best line of procedure. They were met by the chief-of-staff, who had that morning received this note from the patient:

"Dear Doctor: I have now been here five days. I have been examined by Drs. Boston, Utica, Buffalo, and Cleveland. They have kept me in bed; they have asked me countless questions; they have looked at my blood and my excretions; they have x-rayed me; they have tested me behind and before, and they have laid their hands upon me. But *they have told me nothing.* Sleep has left me. I am nervous, uncertain, and despondent, and think of going home. What does it all mean? Where am I at? Truly yours, *Fortiter in Re.*"

The little note tells its own story, and the moral applies to all patients, whether in sanatoriums or elsewhere. The first element in psychotherapeutics, as in all practice, is the securing of the patient's confidence, the demonstrating to him the nature of his ailment, the holding of his appreciation, and the leading him along a clear path of treatment. Correlate your programme, support the patient's intelligence, and never for a moment allow him to enter the land of gloomy neglect or groping puzzlement. This is the primary lesson of psychotherapeutics.

JAMES G. MUMFORD.

All-White Operating Rooms.

In a recent arraignment of "all-white" operating rooms, so dear to the hearts of hospital trustees and some superintendents, Dr. Harvey Cushing, chief of the surgical staff of the Peter Bent Brigham Hospital, Boston, projected into the arena of serious discussion a matter about which many of us have been thinking for some time—indeed some action has already been taken.

Carrell, at Rockefeller, has been using in his animal surgery, for some years, black cloth to cover the animal instead of white, and his walls are dark green. Dr. Corwin, chief surgeon for the Colorado Fuel and Iron Company, lined the operating room of the company's new hospital at Pueblo with lead-colored sheeting. A number of hospitals have followed this suggestion; and others have turned to green.

Of course white is a clean color, and an all-white operating room will lend itself to habits of cleanliness better than any other color, because dirt of any kind will obtrude itself to such an extent that the nurses or cleaners will have to remove it. Boards of directors like to show their beautiful, white, clean looking operating rooms, and usually the operating suite is one of the show places of the hospital. But this isn't all there is to it, nor are these arguments in favor of white the most convincing.

It would seem that the surgeon whose success is dependent in a very large way on his eyes

should have an interest in this matter, and that his comfort and the conservation of his energies are entitled to consideration. Shop efficiency nowadays takes great consideration of the lighting of work benches and the saving of workmen's eyes. Is not the surgeon also a workman, and is not his work about as important as any we can think of?

White is hard and hurtful and tiring on the surgeon's eyes—just think of it, he is looking into a dark cavity, or into a wound blurred with blood, and his success, in a large measure, will depend on how well he can see and identify minute structures. When his eyes tire for a moment and he is trying to "see" with his fingers, he looks away from the field for an instant's eye rest. What does he see? A white operating sheet, white-robed interns and nurses, white floor, white walls, white ceiling, white furniture—nothing on which his tired eye may rest except white; white, emphasized with the glare from the windows. And this goes on, not for a few minutes, but sometimes for hours; some surgeons work from 8 to 1—one patient after another, and always in the white glare.

Is it not time we applied a little shop science to our operating rooms and quit our "window dressing" methods in hospital work?

"Self-Supporting" Charity Hospitals.

The newspapers have reported the close of "a campaign" in Cleveland during which approximately $300,000 was raised for St. Vincent's Charity Hospital—$58,000 to pay off an old debt, and the balance to be employed in the building of another pavilion for patients. The most interesting note in the announcement is the "hope" that the new building will make the hospital "self-supporting." Of course the new building will do nothing of the sort, and every well-informed hospital administrator in the land knows it. The American people should get the notion out of their heads that they can eat their apple and still have it—that they can do charity without paying for it.

At St. Vincent's Hospital, and at every other hospital in this country where charity work is done, one of three things is happening: 1, they are taxing sick people who can afford to pay for their own care, and making them pay for the care of some other sick person who cannot afford to pay; or, 2, they have an endowment out of which the charity funds canbe taken; or, 3, they have an annual deficit which must be made up by calling on the public.

Is it not time that hospital boards and church organizations and benevolent societies dealt fairly by the public and stated the facts of the case when soliciting funds for charity work? We do not believe that the authorities of St. Vincent's Hospital are making any false representations, but we do believe that the people who have been active in this latest campaign have either been fooling themselves or fooling others, or both.

It is an attractive and noble charity—giving for the benefit of the suffering. People ought to be encouraged to do so, and they ought to understand all the time that paying for a building for a hospital is an initiation fee that entitles them to membership in a most worthy cause, but whose annual dues must be called for regularly, and that, if there are no such dues, either the purposes for which they joined the order are not being fulfilled, or that the dues are coming from sources that they ought to know about, and which they would not be likely to approve.

There is not a doubt that St. Vincent's Hospital is doing a fine charity; there is not a doubt that every dollar given to the sisters will bring the largest measure of good to the suffering poor, but let not the good people of Cleveland salve their consciences with the thought that they have done all they need to do, and that the hospital now will be "self-supporting."

"The Modern Hospital" Secures Miss Riddle.

It is with the greatest elation that we are enabled to announce this month an increase in the editorial staff of The Modern Hospital by the addition of Miss Mary M. Riddle, who will, beginning with the February number, have entire charge of the department of nursing. The hospital people in every part of the world know Miss Riddle, and she needs no introduction. Those who have the good fortune to know her personally love her, not alone for her splendid qualities as a leader in the administrative and nursing thought of our time, but for herself as the finest type of womanhood, as a friend, and good comrade.

Miss Riddle is a graduate of the Boston City Hospital, where for some years after her graduation she served as head nurse at the South Department of that fine institution, in charge of contagious diseases—600 beds. She has been president of the American Hospital Superintendents' Association, president of the American Nurses' Association, and president of the Massachusetts State Association of Nursing. She is treasurer of the Isabel Hampton Robb Educational Fund, which has a scholarship in the Teachers' College of Columbia University, in the School of Civics and Economics of Chicago, and in the post-graduate school of the Boston City

Hospital. For ten years she has been treasurer of the *American Journal of Nursing*. She is superintendent of the Newton Hospital, at Newton Lower Falls, Massachusetts.

Miss Riddle enters upon her duties in THE MODERN HOSPITAL with no prearranged policies of any kind, and with the determination to build up a department that shall be of the broadest service to those engaged in nursing in all the varied aspects of that profession.

We bespeak for Miss Riddle the active cooperation of all hospital people, who value progress and efficiency, as we know she already has their highest respect and confidence.

Dr. Montessori's Visit.

Dr. Maria Montessori, of Rome, who has become famous as a teacher of backward children, has been touring this country lecturing on her methods of work. The proceeds of the tour, we are informed, are to go toward the foundation of what Dr. Montessori calls a 'laboratory school" in Italy, in which it is proposed to conduct children through a ten years' course.

Dr. Montessori's lectures were not without a good deal of interest, not to say excitement. Her proposals concerning the teaching of children at home failed to appeal to a good many mothers who heard her, and a common comment was that the whole home where these children were would have to be given over to the education of the children, accompanied by a cessation of all other social and domestic offices. There is no doubt that people who have brought defective children into the world owe them unremitting care, but unfortunately the great majority of these parents belong to the class which can least afford the necessary time, because they must work very hard, and usually at very unprofitable employment, to satisfy the physical, not to say intellectual, needs of the family. It seems the state, or at least the community, must do most of this work, and in special schools conducted for the purpose.

By the way, why is it, whenever a person does something in Europe, he or she straightway comes over here for a lecture tour, "the proceeds of which," etc.? We, in this country, are a rather ingenious people ourselves, but it is very rare that we go to Europe to find the wherewithal to carry on our developmental work, and, where we do, we generally come back with a large fund of experience; but "the proceeds" can be employed only to increase an otherwise limited amount of contentment with what we have at home.

What Is Hospital Advertising?

On the heels of our recent discussions, at the American Hospital Association convention, on the subject of "What is proper advertising for hospitals," comes a decision by the London *Times* and other noted English newspapers that news of the hospitals, annual reports, and the like belong strictly in the advertising columns, to be paid for just as the exploitation of any other business.

Coming, as this decision does, just at a time when the hospitals of Great Britain are laboring under the necessity to readjust their whole organizations to the new conditions imposed by the Lloyd-George insurance and panel laws, the hospital people naturally feel that they are being actually persecuted. If the hospitals were money-making enterprises, the decision would seem to be just; but most hospitals, especially those of Great Britain, are endowed and maintained for the benefit of the sick poor, without profit of a single cent to anyone.

This is indeed a commercial age, but up to this time the hospitals seem to have been free from the charge of commercialism, and at least within certain limits the newspapers have accepted a generous responsibility for the promotion of those things to which the people are disinterestedly committed. Fortunately in this country the hospitals do not depend to any very great extent on the daily papers, and those great enterprises have always done more than has been asked of them. It may be hoped that the same generous understanding will continue, and that the hospitals will have the same fine encouragement they have had in the past.

A Test or A Cure—Which?

Patients at the mental farm at Coquitlam, B. C., won three first, five second, and one third prizes for Clydesdale and Percheron horses at the Chicago stock show that has just closed. Dementia has shown itself in connection with "back-to-the-land" movements oftentimes in the past, and it may be supposed that farming has sometimes been the cause, or has been an accessory after the fact, of dementia. It may be that the patients at Coquitlam are homeopaths, and have been cured by the hair of the dog that bit them—or is dementia a prerequisite to successful farming? Some of us who have tried it and failed would like to think so.

"Agriculture as a self-sustaining means for curing dementia seems to have won a conspicuous victory," asserted an official of the institution, who was in Chicago with the exhibits. "The results of our work in British Columbia indicate the

possibility of a worldwide change in the administration of state institutions for the care of those thousands who are within the twilight zone of mental capacity."

The German View.

A German physician who was guiding Dr. R. L. Thompson, of St. Louis, through one of the great Berlin municipal hospitals, was asked how the city could afford such magnificent institutions.

"We cannot afford to be without them," was the reply; "we have to take into consideration the following points, if for no other reasons than those of actual economy: first, to get the patient well as soon as possible, so that the institution is not charged for his care any longer than necessary; second, to get him completely well, so that he will not return—at least for the same disease; third, to have available such scientific methods for the study of his case as will enable us to better treat the next similar case."

This sums up the whole argument for efficient hospitals. Of course, it does not explain the large sums expended in Germany for monumental architecture, but it leaves nothing to be added in favor of pathological laboratories, hydro- and physico-therapeutic apparatus, facilities for serving special diets, and for the most perfect sanitation that modern architecture can devise.

A New Series of Papers.

It gives us great pleasure to announce a series of seven papers, to begin with the February number, on "The Administration of Industrial and Reform Schools," by Mrs. A. M. Clay, superintendent of the Missouri State Industrial School for Girls at Chillicothe.

Mrs. Clay has won for herself a very large place in the hearts of the people of Missouri for her big and broad philanthropy in caring for the most exacting and delicate class of the wards of the public, as she has earned the absolute confidence of the state authorities for the business-like administration of her important charge.

Mrs. Clay has served a long stewardship in the field of her chosen vocation, and her papers are certain to be interesting and instructive, as may be judged by the subjoined titles:

1. Progressive Details in Administration.
2. Student Government.
3. Repression Versus Expression.
4. Necessity for Loyalty.
5. To Get Obedience, Give Obedience.
6. The "Why" of Institutional Failures.
7. Daily Routine in Administration.

Who Pays for Charity?

It is a mistake for hospital administrators to attempt to prove to the public, in soliciting funds, that they can do a large amount of charity work and at the same time be self-supporting. People of means are intelligent these days, and they know very well that charity service costs money and that, if the hospital does not get the money by voluntary subscriptions or out of its endowment, it must come from patients who happen to be able to pay. The principle of taking more money from a pay patient than the service to him actually costs, and applying it toward the expense of a charity patient, is fundamentally wrong. We should all agree to charge patients who are able to pay, for the actual service to them as indicated by our accounting system; and obtain by frank avowal the necessary funds for charity service from well people who realize just how their money is to be used. Such a policy will succeed with people who have sense enough to own money to give away for charity.

Our January Cover Design.

The cover design this month is an etching of the administration front of the new Cincinnati General Hospital, executed by Mr. Hugh M. G. Garden, whose dainty art gems on the covers of previous numbers have already called forth the liveliest interest and praise.

This splendid hospital, now nearing completion at a cost of approximately $5,000,000, is one more response to the modern demand that the sick poor shall have as good care as those who are able to pay for the privileges of the most elaborate and exclusive private institutions.

Dr. Holmes and the architect, Mr. Hannaford, have earned the greatest gratitude of the people of Cincinnati, as they are certainly the recipients of the admiration of hospital experts everywhere, for the completeness and efficiency of their work. A most interesting illustrated story of the new hospital appears elsewhere in this issue.

Because of the pressure of more immediately important matter, it has been necessary to omit the paper scheduled for this month on "The Equipment of a General Hospital." This paper will appear in February.

In another column, under the head of "Letters to the Editor," will be found a letter from R. F. Almirall in regard to an item referring to the new Sea View Hospital of New York that appeared in the September number of this journal. We gladly give space to this letter in justice to Mr. Almirall.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.
Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The Sanatorium Benefit in Ireland. Robert J. Rowlette. Tr. Roy. Acad. Med. Ireland, Dublin, 1913, XXXI.

The national insurance act has inaugurated a new movement against tuberculosis, and Dr. Rowlette claims that without hearty cooperation of the medical profession it will be impossible to direct the movement on right lines. He appeals to members of every rank of the profession to study the opportunity offered and the best way of assisting in the important work. An interesting discussion follows his paper.

Clubs as Hospitals in War. Colonel Valentine Mathews, late R. A. M. C. Vol. Brit. Med. Jour., London, 1913, November 22.

The selection of the Automobile Club as one of the general hospitals provided for the territorial force in the London district in case of invasion meets with the approbation of the writer, who advocates the registration of all clubs on the south side of Pall Mall for similar purposes in case of the mobilization of the territorial force. Supplies from neighboring hotels would result in providing suitable hospital accommodation in time of war.

The Florence Nightingale Hospital. H. H. Brit. Jour. Nursing, London, 1913, LI, November 22.

Her Royal Highness Duchess of Albany opened the extension of the Florence Nightingale Hospital for Gentlewomen at 19 Lisson Grove, N. W., November 14. The occasion was most impressive, and was attended with a suitable program of music and an address of the president. The objects of the hospital are to provide gratuitous surgical service to gentlewomen who are unable to bear the expense of ordinary nursing homes. The institution is open to all denominations and all nationalities.

Hospitalization of Typhoid Patients (Della spedalizzazione dei tifosi). V. Luigioni. Ospedale Maggiore, Milano, 1913, I, No. 8.

In many Italian hospitals the typhoid patients are not sufficiently isolated. In some places they are even placed in the same rooms with other patients. The author demands a strict isolation of such patients. There should be two wards in each hospital for such patients, one for men and one for women, but both should be placed in the same pavilion or in the same division of the building. Small special isolation rooms should be provided to receive delirious patients or patients affected with other infectious diseases. A typhoid ward should also have a special cabinet for chemical, microscopical, and bacteriological researches.

Mission Hospitals of the Empire. Hospital, London, 1913, LV, November 29.

Medical missionaries have been the pioneers in every civilized country in which hospitals have been established. With 800 medical missionaries in China, with few exceptons—such as the treaty ports and places where military surgeons or legation physicians practice—all scientific, medical and surgical work in China is in the control of missionaries. The desire of the Chinese to avail themselves of the advantages of western medical science in the education of the rising generation has been an important factor in the changed attitude of the Chinese government toward Christianity and missions in general.

The Infants' Ward of the New Vienna Children's Clinic (Die Säuglingsstation der neuen Wiener Kinderklinik). E. Mayerhofer. Ztschr. f. Kinderheilkunde, Berlin, 1913, VIII, Orig., No. 5.

The station is in the third story of the main building of the children's clinic. The room extends along the southern front and the windows open toward the south. Doors, corridor, and elevator are on the north side. The flat roof is arranged as an open-air station. There are in all four rooms to receive the babies, and rooms 1 and 2 can be used as isolation rooms. Six sisters are constantly employed as nurses, and there are two or three wet-nurses, the latter bringing also their own babies with them.

Resolutions of the German Hospital Physicians (Entschliessung der Krankenhausärzte). Pagenstecher. Ztschr. f. Krankenanstalten, Leipsic, 1913, IX, No. 43.

The German hospital physicians, at their meeting held in Berlin, adopted the following resolutions: (1) The principle that only patients without means may be treated gratis must also be observed by the hospital physicians; without means are to be considered those persons who have no means of their own and who have no claims to an accident, sickness, or other insurance. (2) Therefore all persons falling under the national insurance law are not to be considered without means. (3) The chief physician in charge of a hospital must therefore require payment from such patients. (4) Patients transferred to the hospital by mutual insurance associations are not to be treated without remuneration, especially as regards special treatments, operations, etc.

The Nurses' Missionary League—The Opportunity of Womanhood. Dr. Jane Walker. Brit. Jour. Nursing, London, 1913, LI, November 29.

In an interesting address the speaker claims men have been too busy in working out their own salvation to remember women, and no history worthy of the name would be complete without taking account of the "woman's movement." With present-day progress and enlightenment, the future is full of vast opportunity. The work of Florence Nightingale in the Crimea was not her greatest work. She had done splendid work in altering the system of military sanitation. The passing of the metropolitan poor act in 1867 was largely due to her. Dr. Walker gives excellent advice to nurses—recommending them to read if only fifteen minutes a day, and to follow the advice of Lord Holdane to the students of Edinburgh, "Take a wide outlook on life." Nursing in its highest aspects, she claims, is essentially a religious work—a vocation more than a profession; that the nurse's opportunities for good are boundless, and through it all she must bring humanity, comfort, and consolation. She must be a true daughter of consolation.

What Is a Mental Hospital? Hospital, London, 1913, LV, November 29.

Improvements in institutional treatment of patients suffering from mental diseases make the term a generic one as applied to all institutions in which the insane or mentally deficient are confined. In a technical sense, the more precise meaning is worth noting. Under the lunacy acts three kinds of institutions are recognized—county and borough mental hospitals (asylums of old), registered hospitals, and licensed houses. The county and borough institutions are rate supported and intended for the poor-law class of patients, while the registered hospitals and licensed houses exist for paying patients, and have no rate aid and sometimes no endowments. Today the mental hospital is becoming the property of the new institutions for unimprovables, and the ward colony is used increasingly for those where the ability of the majority is rendered capable of work.

The Construction of Hospitals—A Belgian View. Chapter 6—The Drug Store (Die bauliche Anlage der Krankenhäuser—Ein belgisches Gutachten. 6. Kapitel —Apetheke). J. Stastny. Ztschr. f. Krankenanstalten, Leipsic, 1913, IX, No. 45.

In the hospitals of Brussels the drug store is burdened with dispensing wines, beers, and even eggs. The physicians protest against such a custom and demand a reform. The drug store should dispense only for the hospital and should have no outside customers. In Brussels the hospital drug store consists of a pavilion of two stories and a basement, the latter serving as a storage room. The drug store proper is in the first story, which contains also an office, a library, a laboratory for chemical and microscopical analyses, a distillation room, and a laboratory for the assistant. The second story contains a dining room, three bed rooms for the employees and one for the servant. Such a drug store is sufficient for a hospital of 800 to 1,000 beds.

The Municipal Sanatorium for Nervous Diseases of the City of Frankfort-on-the-Main (Die städtische Nervenheilanstalt der Stadt Frankfurt a. M.). Bresler. Psychiat.-Neurol. Wchnschr., Halle a. S., 1913, XV, No. 31.

The sanatorium is situated in the Taunus Mountains, and is built on the southern slope of a high ridge, surrounded by dense woods. It consists of two large villas—one for men and one for women. The basement, which is large and receives an abundance of light from the south side, contains rooms for therapeutical purposes. In the first story there are two large parlors and three dormitories for 18 patients. There are also large, wide balconies on the south and east sides. The second story contains a spacious concert hall, six rooms for patients, and a large parlor. This story also has large balconies. The total cost is $255,500 (1,022,000 marks). The furnishings cost $30,750 (123,000 marks), and $31,750 (127,800 marks) were spent for machinery. The institution has its own electric plant, water supply, and a sewage system, with a purification plant.

Prevention of Insanity by the Treatment of Incipient Cases in General Hospitals. Vernon L. Briggs. Med. Review, St. Louis, 1913, LXII, November.

The author takes up the early history of insanity as mentioned in the laws of Moses, and to be found also in Hebrew scriptures as "madness." He cites the expense of care of the patient, deals with statistics and the bibliography of his subject, and concludes with the following summary: Psychiatric wards in general hospitals would be the means of preventing insanity in a very large portion of cases. First, the incipient case would have the advantage of immediate expert care, composed of every branch of medicine and surgery. He would have the advantage of a large hospital nursing staff in place of a few attendants. Suicide and attempts at suicide would be prevented. The social consideration of patients after recovery would save 50 percent from being placed in insane institutions. The opportunity for clinical instruction to physicians and medical students would result in the whole profession earlier recognizing incipient cases, and would be an enormous gain to our profession and a greater gain to the public.

A Method of Registering Hospital Cases. T. T. O'Farrell, Tr. Roy. Acad. Med. Ireland, Dublin, 1913, XXXI.

The writer claims for a good method of registration the following characters: a good method of case taking; a uniform classification of disease; a regular and systematic notification of results; a simple method for recording and storing these results; a registration file of operations (date index); colored cards—red for males and blue for females (name index); case sheets—males and females (registration number index). The files should be kept in the form of drawers, and worked according to the card indexing system, as shown in an accompanying illustration. At the end of the hospital year results of cases are to be entered in the analysis book, with the following record: number in column nomenclature; diseases; cases according to registration number; cured; relieved; unimproved; died. Personal element enters strongly as to the detail of cases. The registrar can without difficulty obtain the necessary details through those directly concerned with the treatment of the case.

The New General Hospital at Barmbeck (Das neue Allgemeine Krankenhaus Barmbeck). K. J. München. med. Wchnschr., 1913, LX, No. 45.

This new municipal hospital of the city of Hamburg was opened November 2. The hospital grounds cover an area of 34,000 square meters. The construction lasted three years and cost 14,500,000 marks ($3,625,000). The institution has room for about 2,000 patients. The hospital presents some important special features. The division for infectious diseases is completely isolated, and the reception of such patients is strictly separated from that of other patients. This division contains a so-called exchange pavilion, with a pure and an infectious side. The physicians and attendants of each side are kept strictly separate. There is also a special division for doubtful cases of mental disease, which is intended to receive such psychoneurotics whose transfer to an insane hospital does not appear to be urgent. Special attention was given to the division of physiotherapy, which has its own chief physician. The bath house is arranged for carbon dioxid, sulphur, vapor, Turkish, and hot-air baths, with douches of all kinds. A large hall contains a complete apparatus for Zander gymnastics.

With the Red Cross in Greece, 1913. W. W. Wagstaff and J. R. A. Todhunter. St. Thomas Hospital Gaz., London, 1913, XXIII, November.

Having been intrusted by the British Red Cross with a large amount of stores sent to the assistance of the Greeks in their war against Bulgaria, the authors furnish an interesting account of the incidents of the journey and condition of affairs met with. At Durazzo, a western Albanian town of marked oriental character, was to be seen a western and highly civilized chemist shop. At Salonica they were appointed to the Third Military Hospital. In

being given access to crowded annexes of the hospital, the number of cases treated in six weeks totaled 436—295 surgical and 141 medical cases—excluding a large number of casual out-patients. The Greek soldiers were entirely unaccustomed to hospital work. Valuable assistance, however, was given later by an English nurse familiar with the Greek language. The Greek medical service treated an enormous number of wounded most satisfactorily. At one time there were 12,000 wounded in Salonica, for which all the schools in Salonica were converted into hospitals, under the control of the Greek Red Cross, thirteen such improvised hospitals being under its charge. The manner in which the necessary equipment was supplied was wonderful, the Greeks having learned the lesson from the first war, and had well assimilated the teaching of their French instructors.

A Little Journey to the Hospital of St. Bernard. Critic and Guide, New York, 1913, XVI, December.

In an interesting account of forty-nine days in Europe the editor tells of his visit, and furnishes illustrations of the hospital founded by St. Bernard de Menthon in 962. With a winter of nearly nine months and the heavy snow, starving peasants and workingmen who come up from Italy in search of work are lost and buried in the deep snow. In their work of saving the lost wayfarer the monks are assisted by the St. Bernard dogs, that possess a wonderful sense of smell. Without these the monks could do but little. The hospital contains twelve monks and seven attendants. The former go there when quite young, but several years of the severe, gloomy climate—the hospital being one of the highest winter habitations, with an altitude of over 8,100 feet—their health is undermined and they are sent to some milder climate, Martigny or Italy. Other self-sacrificing youths take their places. Strangers remain but twenty-four hours and without charge. The traveler who can afford it, however, drops some contribution in the box before leaving. The writer comments on how often a man will pay 50 or 100 francs a day at a hotel when he must, but who will not leave 10 francs to the poor, self-sacrificing monks who have such meager sources of revenue. The hospital has a good library, chiefly, however, of theological works, an interesting collection of coins, etc. One monk acts as postmaster, another as telegrapher. They all have some secular work, and are not idle. As a sign of progress, the writer notes the use of electricity in the dining room—eight years ago a kerosene lamp furnished light—showing that even an abbey founded in 962 cannot wholly escape modern influences.

The Copenhagen Hospitals (Les hopitaux de Copenhague). P. J. Ménard. Paris Médical, 1913, XII, No. 47, Suppl.

The author paid a visit to the Danish hospital, and finds that Denmark takes a foremost place among the modern nations in the progress of hospital science. The Danish hospitals are among the most beautiful in the world. There are two classes of hospitals—national and municipal. The Rigs Hospital, or national hospital, at Copenhagen is under direct government control, and receives patients from the whole kingdom. It is complete in all its departments, and forms the center of medical education in Denmark. There is no rivalry between faculty and hospital, and there is no separation of theoretical and practical instruction. There are six municipal hospitals in Copenhagen. A general director is in charge of the administration of all city hospitals, and each hospital is managed by an inspector. Most of these hospitals are of modern construction. Kommon Hospital, though built fifty years ago, is worth a visit. It is the type of a hospital complete in all its medical branches, except infectious diseases. There are six large pavilions—two surgical and two medical pavilions, one for skin diseases, and one for nervous and mental diseases. A children's ward is attached to each service. Bornes Hospital, or children's hospital, is of quite recent construction. It presents a beautiful and pleasant sight. Everything is clean and orderly. There are flowers and shrubs in profusion—in the halls, in the sick rooms, in the corridors, and on the balconies. All rooms are large and airy, with doors and windows wide open. Large verandas form open-air stations, and are occupied by the children also during the winter season. Rigs Hospital is the most beautiful hospital of Copenhagen, built on thoroughly modern lines. It contains 974 beds, has five medical and five surgical pavilions, and cost $2,150,000 (10,700,000 francs).

The German People's Sanatoriums for Nervous Diseases in 1913 (Die deutschen Volksnervenheilstätten im Jahre 1913). Bresler. Psychiat.-Neurol. Wchnschr., Halle a. S., 1913–14, XV, Nos. 30, 31.

Schönow House, near Berlin, was founded by an association of prominent benevolent men and opened in 1899. The institution consists of a large administration building, two pavilions for men and one for women, and other smaller buildings. Another sanatorium for nervous diseases for people with limited means is Rasemühle, near Göttingen, which owes its existence to the generous efforts of the late Dr. Cramer, professor of psychiatry in Göttingen. It was his purpose to establish an institution for those nervous patients who have small means and who, without treatment, would fall into permanent mental derangement and be lost to their family as breadwinners and become a burden to the state. The sanatorium has room for 100 patients. Another institution of this kind is Roderbirken, near Leichlingen, in Rhenish Prussia. It stands on a hill, and is surrounded on three sides by dense woodland. There are two large buildings—one for men and one for women. Cases of pronounced psychical derangement are not received. Only nervous exhaustion in the widest sense, the acute acquired neurasthenia, is treated at this sanitarium. The city of Essen owes its handsome sanatorium for nervous diseases to the generosity of one of its citizens, Mr. Lührmann. It is the first municipal sanatorium established for nervous diseases. The building stands on high ground, surrounded by woods, and consists of two wings—one for men and one for women. Another institution of this kind has lately been established by the city of Frankfort-on-the-Main, which is described in another paragraph. The sanatorium of the Mutual Insurance Association of Leipsic belongs also in this class. It is built in the villa style and has room for 50 patients. Most of the patients are neurasthenics. The curative means are air, sun, mineral, pine needle and carbon dioxid baths. Some of the patients are employed in light gardening work.

Gift for Johns Hopkins.

The John D. Rockefeller General Educational Board recently announced that it had appropriated $1,400,000 for the Johns Hopkins Medical School. Professors and their staff in the departments of medical surgery and pediatrics will be able to withdraw altogether from paid practice, and devote their time to care of patients, teaching, and research work. The fund is to be known as the

William H. Welch fund, in honor of the president of the university. In making the gift the General Educational Board places no restriction on the physicians. They are free to do any service that science or humanity demands, and to treat any one, but will accept no personal fee.

Leicester Royal Infirmary.

Mr. Thomas Sharland, of Leicester, on reaching his four score years, sent a donation of £100 to the Royal Infirmary. The donation was the result of nine years' saving. His desire to thus celebrate his eightieth birthday was stimulated by a similar gift from the late Dr. Nuttall in 1905.

Army Nurse Corps.

The annual report of the surgeon-general of the army for the fiscal year ending June 30, 1913, furnishes interesting information of the Army Nurse Corps. With an authorized strength of 125, an increase of 25 nurses became effective July 1, 1913. Such a provision will enable the surgeon-general to supply additional nurses at stations now inadequately provided for. During the fiscal year 36 new appointments and eight reappointments have been made, and 39 nurses have been discharged. There have been 549 applications from graduated nurses for admission. Since his last report the surgeon-general announces the enlargement and completion of nurses' quarters at the Walter Reed General Hospital, Takoma Park, D. C.; the Letterman General Hospital, San Francisco, Cal.; and the Army and Navy General Hospital, Hot Springs, Ark. The American Red Cross Nursing Service, approaching 4,000 members, constitutes the reserve of the Army Nurse Corps, and in time of war or emergency, with their own consent, they are eligible for active duty.

New "Restraint" Laws in England.

New regulations for the restraint of mental patients have just been issued by the British commissioners in lunacy to take the place of those that have been in force since 1895. The new rules are more stringent than the old as to the conduct of institution employees and physicians, but allow physical restraint in a wider range of cases. These are a few of the provisions:

"A straight jacket may be used different from that described if it has been approved under the seal of the commissioners and a sample bearing the seal is kept at the institution for inspection. Also, if, in the opinion of the medical man in charge of the lunatic, some mechanical means of bodily restraint other than those permitted are necessary in a particular case where the circumstances are exceptional, such means may be used with the previous sanction of the commissioners for such periods as they may authorize. Gloves are to be considered as mechanical means of restraint only if so fastened that they cannot be removed by the wearers. If the continuous bath is employed, the use of a cover to it will no longer be deemed to be restraint if the aperture in it for the patient's head is large enough for his body to pass through. Trays or rails fastened to the front of chairs used by idiot children, cripples, or aged infirm adults to prevent their falling out are not to be considered restraint, provided that in the case of adults it is within the patient's power to undo the fastening."

Fifty-six "freemen" of Boston in 1810 signed a "round robin" asking for the establishment of a hospital for the sick poor of that city. Jackson and Warren, whose names come down to us in connection with the discovery of ether as an anesthetic, worked out the plans, and the Massachusetts General Hospital, opened in 1821, was the result.

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What Is "Research" Medicine?

"Among the many criticism of the report of the royal commission on London University," says *The Hospital* (London), "none is more interesting to the hospital world than that which Dr. Charles Mercier has embodied in a letter to the educational supplement of the *Times*. He insists on a proper understanding of the meaning of research in relation to medical education. After pointing out that according to the commissioners 'the medical undergraduate of the university should be brought up in an atmosphere of research,' he declines to have this word limited to 'some recondite method of finding out what is unknown,' and argues very pertinently that the whole time which the student spends in the wards is spent in research into the particular things which he will be called upon to investigate in after life. To research, Dr. Mercier emphasizes, means no more than to search diligently, and he argues that the best way in which to teach students to do this is as much the province of clinical instruction as of specialized laboratory work. There is an undoubted danger, just now, of this side of the question being forgotten, and Dr. Mercier is to be congratulated for bringing the straying attention of the disputants sharply to the halt."

FOREIGN CORRESPONDENCE

LETTER FROM SPAIN.

A Little Journey in Spain—The Early History and Present Management of Hospitals—The Intern System—The Effect of Bull Fights on Hospitals.

Madrid, December 6, 1913.

There is only one thing I am sorry about regarding my Spanish travels, and that is that I didn't discover Spain sooner. To land at Gibraltar, run over to Tangier perchance, and then come back and saunter through the warmth of temperament as well as temperature of Andalusia; to see the Moorish palaces; to wander in the gardens of the Alhambra on a moonlight evening; to yell yourself hoarse at a bull fight in Seville; to see the greatest art collection in the world in the Madrid Prado; to ride across the ancient stone bridge into the old town of Toledo; to get the spirit of a new kind of life that makes you feel a thousand years young—is worth while. And this holds true for the medical man even if there isn't anything in the medical line wonderful to see, for, even if there were, one would wait till that wonderful "tomorrow" of the Spaniard to see it.

The expression, "Let George do it," is not a joke in Spain. It is the motto of the country. And so, as far as hospitals go, I'm going to "let George do it," and merely tell you some of the gossip I heard while on my travels, for I give you my word that, with a single exception, I didn't set foot inside a medical institution while I was in Spain.

Although we are inclined to overlook Spain today, one should remember that from the fourth to the fourteenth century it was the Arab and the Jew that kept the "lamp of secular learning lit" when "superstition came near beggaring the intellect of Europe." And it was Moorish Spain that was the "center of light and culture at this time"—Averroes, Albucasis, and Gerbes were valued for knowledge. As early as the tenth century Christians crossed the Pyrenees to study in Spain. The Moors had female physicians and a licensing board—they considered dietetics and they washed. (That is why the Spaniards didn't; to this day dirty brown is spoken of as Isabella color.) Smallpox was first discovered by Rhazes, a Moorish physician of Cordova. The Moors described erysipelas as an epidemic disease, they removed tumors, and bone plating was done by them. Even in the middle ages Spain had a psychopathic hospital. In the sixteenth century Spanish physicians and surgeons were active in advancing their profession. We can find important literature on such subjects as operation for calculus and trepanation. The treatment of wounds was intelligently discussed by Ageuro, a professor at Seville (1531-1599). The treatment of urethral stricture by bougies was written on by Andreas a Laguana (sometimes called the Spanish Galen). Although born in Brussels, the greatest medical mind in Spain during this period was Vesalius, who accompanied Charles V. into Spain and became court physician to Phillip II. The jealousies of the court, the antagonism of the clergy, and the lack of anatomical material finally drove him out of the country.

The University of Madrid is called the Central University to distinguish it from the provincial schools. The faculty of Madrid dates from 1850. The university has a large library, including many rare books. The medical department of the Central University is called the San Carlos College of Medicine. The school was founded in 1780 by Charles III. The course of study extends over seven years. The school has a large, well-lighted dissecting room and a good anatomic museum. There is also a good pathologic museum, well arranged and extensive, but not up to the modern colored collections one usually sees nowadays. There are animals and instruments in the physiology department. The bacteriological laboratory seems up to date. There are about 400 medical students in this school.

There are seven other medical colleges in Spain, but power to grant diplomas is limited to San Carlos. Thus a man from any other school must spend one year at least in San Carlos before being allowed to come up for his degree. Graduates of the other schools are allowed to practice, but are not allowed to make use of the title M. D. There are about 2,000 medical students in Spain, and, according to the ideas of the medical men one meets, that is about 2,000 too many.

Practice in Spain is difficult as far as earning a living is concerned. The profession is overcrowded. Many go into the army and navy, but here the maximum pay is about $60 a month. The average fee in Madrid is from $1 to $2 for a call. The man who makes $1,000 a year is considered a successful practitioner. It is said that there are one or two great specialists in Madrid who make as much as $20,000 a year.

Spain is filled with charitable institutions, especially of religious orders, the Sisters of Charity and St. Vincent de Paul being particularly well represented.

The latest detailed information I was able to obtain regarding the hospitals of Spain was some ten years old, but in this country a mere matter of ten or twenty years is of little importance, and therefore such figures as I shall use will serve for all practical purposes.

Since 1812 the Beneficencia Publica of Spain has been in charge of bodies corresponding to our hospital, health, and charity boards, known as ayuntamientos or juntas. Such boards are appointed by the municipality, save in the case of private institutions. These boards have to do with public health as well as hospitals, and in 1879 the Government decreed that municipal juntas should be established in all towns with over 1,000 population; and that the important provincial juntas should include the civil governor of the place, a justice of the peace, the captain of the port, an architect or civil engineer, two professors in the faculty of medicine, two in pharmacy, one in surgery, and in addition a veterinary surgeon and three gentlemen "who shall represent property, commerce, and industry." With such a board, is it any wonder that Spanish institutions have not made progress? When we mix even a lay and a professional board at home, all action ceases, so what could be expected in Spain? And, besides, how could this board keep up with modern progress unless the Government had made some provision to add a chauffeur, a wireless telegraph expert, and an aviator.

Besides the aforesaid list, for Madrid there must be six

additional members—two skilled in medical science and one an architect or civil engineer. One can understand now why, when he turns to Madrid in his Baedecker's Spain, he sees the statement, "None of the Madrid hospitals are good," which may be bad English, but is good advice to the invalid tourist.

And this is not all. In 1885 it was further decreed that there should be a council of health, which, with the minister, should be supreme in this department, and in this council there must be the minister himself as president, the director general of health, the director general for the army and navy, the chief of the national fleet, two diplomatic agents, two consular agents, five experts of the faculty of medicine, and an expert veterinary, engineer, and architect. These men are nominated by the king. The secretary of the board receives a salary of $1,200 a year, and the others are well paid.

The report of this central board, which I saw, included at that time some 1,500 public charitable institutions, of which some less than 1,000 were hospitals; the rest were infirmaries, insane asylums, foundling homes, lying-in establishments, and what not. These hospitals are classed as general, provincial (state), municipal, or private, according to the source of their income.

The first attempt at hospital organization in Madrid was by Phillip II. in 1566. The consent of Pope Pius V. was obtained the following year so that old Moorish hospitals could be included. It was not till 1587, however, that all the hospitals of Madrid, with the exception of the Passion, were united into a single general hospital situated in the Calle del Prado. This hospital was supported at first by charitable persons, but in 1636 Phillip III. gave it a certain sum, and later certain taxes were levied for it. The institution was removed to the Calle de Atocha in 1748, and near by are the medical schools of San Carlos, established by Charles II. in 1783.

This Madrid general hospital can care for about 1,800 patients if required, although there are only 1,650 regular beds. It is a great quadrangular building, four to five stories in height. There are forty-four wards, varying in size from 100 beds to 10 beds. The services include medical, surgical, obstetric, ophthalmic, insane, and detention, There is special accommodation for people of rank and paying patients. There is a small operating room for each surgical division.

The nursing is done by men for the males and by hospital sisters for the women. The diet list is generous, although possibly better adapted to the Spanish than the American palate. Garlic soup for breakfast, for instance, might be objected to by an ignorant foreigner. A pint of wine is included in the daily fare. The general aspect of the hospital is dreary; there is not enough light or air. There are no stoves, and I am told that the cold may be severely felt in winter. As it was 110° in the shade the day I visited the hospital, I did not miss the stoves. The uncleanliness that is so noticeable seems unnecessary, and can be accounted for only by that peculiar Spanish characteristic attitude that makes one think that the expression, "We should worry," must have originated in this country. Apparently there are no rules of any sort in this great hospital. There is no such thing as regular attendance. There are no records, save memorandum books. Visitors smoke, flirt, and conduct themselves in general just as they might at the "movies."

The staff of the hospital is made up of clinical professors from the medical faculty and an equal number of resident physicians, who take turns being on duty. There are also resident interns, who are men that have passed their preliminary laboratory medical courses and are taking this means for acquiring their degree in medicine. These men are chosen by competitive examination. One of these competitive examinations for places under the Beneficencia Municipal was held while I was in Seville, and one of the daily papers was unkind enough to take exception to the fact that certain men were given appointments notwithstanding the fact that they were unable to answer a single question in topographical anatomy correctly, and could not define such terms as "amputation," "hemorrhage," "ligature," and "disarticulation."

It is difficult to find out much that is definite regarding the finances of these Spanish hospitals. I can imagine that the milkman and the grocer and the butcher have the same difficulty, for there is only one fixed rule regarding their finance, and that is that the expenditure shall always exceed the income. One report that I saw of the Madrid hospitals showed an outlay more than double the income, and, as if that were not enough, there was added to it a similar deficit for the previous year. As a matter of fact, everything works out all right eventually, for, when the deficit gets so big that the milkman and the butcher threaten to cut off their supply, state and the municipality get busy and vote a few thousand extra pesetas and stick up the price of seats at the bull fight a couple of cents higher so as to raise the money. Moreover, the hospital has the revenue from the sale of clothing belonging to the deceased, and I should imagine this might be made to help in an emergency.

In addition to the Madrid general hospital, there are many other institutions in the city, for Spain does not lack in quantity, whatever its other deficiencies may be. Dr. Nicholas Senn is one of the few Americans who, as far as I can find, ever learned anything about Spanish hospitals. He has published an article on the Medical Institutions of Madrid (American Medicine, vol. VI, 1903). He found a commendable spirit of progress in the medical profession in Spain. He says "progress and investigation is rife everywhere, and makes itself manifest in all of its medical institutions and medical literature." I have taken the liberty to quote extensively from Dr. Senn's article regarding some of the Madrid hospitals, although I can not take quite his rosy view regarding medical progress in this country.

Hospital Militar de Madrid en Carabanchel Bajo, the military hospital, was erected in 1895, and consists of twenty-four pavilions, solid brick, either one or two stories in height. The buildings are connected by glass-walled galleries. There are very fine quarters for the medical officers in separate pavilions near the entrance. A general is in command, but in Spain there are many generals. There is a separate pavilion for operating, including the usual preparative anesthesia, sterilizing, and instrument rooms. The buildings are electrically lighted and steam heated. In this hospital the wards are kept clean. There is a well-equipped laboratory for pathology and bacteriology, and a good museum. There are isolation pavilions for infectious and for mental diseases. The hospital is intended for 400 patients, but many more can be cared for if necessary. There are well-arranged store rooms, laundry, stables, etc. The sick are cared for by men detailed from the sanitary department and by sisters of charity.

The clinical hospital is an old building adjacent to the medical school, with a capacity of 240 beds, divided into wards of from 10 to 24 beds. Teaching is done in this hospital in a modern way, two or three students being assigned to a case. They take a complete history, make a

physical examination, and follow the case through by regular visits.

Princess Hospital is in the heart of the city. It was founded by Queen Isabella II. for 225 patients. It consists of three-story brick pavilions, with inside glass-protected corridors and a beautiful "patio," with flower beds, trees, wandering paths, and fountains. Sisters of charity care for patients. This hospital has also orderlies, who have had two years' training at San Carlos. This hospital has a large out-patient department, which includes clinics for genitourinary diseases, nervous diseases, eye, ear, nose, and throat, gynecology, and children's diseases.

Rubio Institute is an institution devoted wholly to surgery. It was erected in memory of Frederico Rubio y Gali, Spain's most famous surgeon, and opened in 1896. Rubio served here until his death in 1902, and is buried in the hospital grounds. The school is used as a post-graduate institution for the study of surgery. Instruction is given for two years for 250 pesetas. The hospital is beautifully situated, and has extensive well-parked grounds. There are two wards of 24 beds each, connected by corridors with the operating rooms. The equipment is modern; it is lighted by electricity and has steam heat and sanitary plumbing. This institution is really in a class with some of our better private hospitals, and is the only place in Madrid which offers training for nurses. Nurses receive a three years' course, given by members of the staff, and receive a certificate on passing a satisfactory examination at the end of the course.

There are many other small hospitals, seventeen in all (in 1903). These include the children's hospital of 200 beds, a hospital for the insane, with a seaside branch at Villajoyosa, where inmates are sent for the summer. Insane patients are supplied with music, dancing, and theatrical performances.

The hospitals of Spain do not have interns in our sense of the term. Instead, young doctors are appointed by competitive examinations, and hold the places until they are able to make a living by outside practice. The men alternate, serving twenty-four hours at a time. For instance, in the Princess Hospital there are three "interns," and therefore each man has to give every third day to his service. They receive a small salary, and try to acquire a practice in their off time.

I find in my note book the following rough notes on other Spanish hospitals:

Seville.—The Central Hospital, which is a municipal institution, is said to be no better nor worse than the average. The Hospital del Sangre is a private hospital, which can accommodate 300 patients. This is one of those institutions which reverses that expression of Shakespeare, "a goodly apple rotten in the core," for this has a very goodly inside, although it is not attractive on the outside. It is a large quadrilateral building, which incloses a splendid garden, in which there are orange trees and flowers. A chapel is located among the orange trees, and mass is said here daily.

Granada.—Despite the beauties of the Alhambra, this town contains about as much poverty as one sees anywhere in Spain, and it is not surprising therefore that we find here a hospital of 500 beds. This is called the Hospital of San Juan de Dios. The attractive thing about it is that the expenses of this institution are always 25 percent greater than the income.

Bilbao.—This city has a fairly modern hospital of 241 beds, which cost about $100,000. This hospital has a revenue of $75,000 and spends $100,000. (I refuse to be personally responsible for any of these figures. I am simply repeating what anyone might tell an ignorant tourist.)

Santander.—This city is famous for staging the greatest bull fights in Spain. Every summer there is a bull fight given here which begins in the morning and keeps up all day. It is a regular "world's series" bull fight. All of the 200 beds in this hospital are sure to be occupied following this big bull fight. This hospital spends exactly double its income, according to report.

Valencia.—As near as I could figure it out, there is a Central Hospital here, to which the inhabitants of some 300 surrounding towns are privileged to send patients, and I presume there is some mechanism by which they pay for this privilege. The General Hospital was founded by P. Jofrè. It consists of a number of large irregular buildings, and can accommodate more than 1,000 patients. The doors are so large you can drive right in with your touring car, providing you have one. Valencia is also noted for having established in the middle ages what was probably the first hospital for the rational treatment of the insane. This institution, the Hospital dels Folls, was founded in 1409 by Bernardo Andreu.

Valladolid.—Has a general hospital of 300 beds, in which the patients are cared for by the sisters of charity, and the physicians on the staff are paid a salary.

Barcelona, which is said to be as up-to-date in hospitals and in its medicine as any European city, I am reserving for a future communication, for, as I indicated in the beginning, some day I am going back to Spain.

R. L. Thompson, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

LETTER FROM VIENNA.

European and American Methods of Building Hospitals Contrasted—The Kaiser's Jubilee Hospital in Vienna Taken as a Practical Example.

Vienna, December 5, 1913.

As showing the difference between the way we conduct the preliminaries for the building of a hospital and the way they approach the problem in Europe, let us take the new Kaiser's Jubilee Hospital of 1,000 beds in Vienna.

There were some preliminaries of a legal nature. Vienna had never built or owned a hospital, though under the laws the city was obliged to take care of its sick. So the courts had to pass on the question, and did so, finding that there was no compulsion on the part of the city to build. But just about that time came along the fiftieth anniversary of Emperor Francis Joseph's ascendency of the throne. It was decided to give his majesty a great festival. While plans were being talked over, the old gentleman himself settled the matter by deciding that he would have no fuss made over him, and that, if it were the pleasure of his people to celebrate his anniversary, he would take it as the highest compliment if they would build a great hospital.

Then began the philosophic and scientific European way of doing these things. The plans were given to the city architect Scheiringer to prepare. The heating was given to Baurat Wejmola, a man of national repute in that work; the lighting, ventilation, and other engineering problems were given into the capable hands of engineers Ast and Möhner, men also of national repute. The internal arrangements were assigned to Leo Ehmann, a specialist in hospital building, and specialists in the various branches of medicine were next appointed, so that they could help develop the plans, each in his own department.

There were the chief magistrate, Dr. Dont; Dr. Moritz, chief of staff; and Linsmayer, Popovac, Keitler, Kren, Topolanski, Reitter, Maresch, docents; and Doctors Kapsamer, Zaffron, Mayer, Kowarshik, and Schoenfeld, every man of them specialists in their several branches.

Then these men got together, divided the work up among themselves, and went at it. The function of the architect was to compose the various parts into a harmonious whole. After each man had told the architect just what he wanted, and after the architect had drawn up these several department plans, the committee of the whole got together again, presided over by the mayor, Dr. Karl Lueger, and together they arranged the differences, cut here and there, and eventually decided on just what each department should have.

Then the engineers got to work. Hospital Engineer Ehmann made the layout, to give the best service to each department and to place the several departments in proper relation to each other; to give proper location to the power plant, kitchens, laboratories, and baths.

Then other meetings of the whole committee were held. At these meetings the completed plans were on the tables, specifications were shown, and prices of everything were given. Amendments were made here and there; the specifications were changed concerning materials, and the internal arrangements were shifted. Then the architect took back his plans and perfected them in accordance with the changes ordered, after which they were again submitted.

When the final approvals were placed on the plans, the contracts were let and the building operations were begun. After that no changes were permitted. There were no "extras" on the job, and the head of a department who did not like what he was getting could "kick" to his heart's content—it did him no good. But every man who had anything to say about the planning of the hospital was a specialist, whose judgment had been proved in previous hospital service.

In the United States an architect is hired the first thing—generally somebody's brother-in-law. He may have built a hospital before, but that fact is a happy coincidence and not a prerequisite. He looks over the ground, draws his plans, submits them to a board of directors, not one of whose members knows a single fact about architecture or hospitals, and generally could not read a blue print to save his life. If a member of the medical staff is consulted, it is because he is a friend of some member of the board and not because he knows anything about a hospital. Then the plans are approved by the board. The specifications are drawn by draftsmen in the architect's office, generally young men or boys, who are dependent for their knowledge, as they proceed, on books or on a fugitive article here and there, but who have no first-hand knowledge of the work they are doing.

It naturally follows that when the structure begins to take form and the medical men of the institution have an opportunity to see for themselves what they are to get, the protest begins. Generally the demands of the doctors are so reasonable, and their complaints so indisputable, that the changes are ordered—that is where the "extras" begin. But sometimes the changes are called for so late that the cost of making them would be prohibitive, and the building goes on and eventuates in a monstrosity.

When we compare the workmanlike efficiency over here, and the smooth, architectural, and utilitarian product, with what we are getting at home, we members of the medical profession may be pardoned for asking, "How long, O Lord, how long," are we going to be cursed with uninformed, ignorant, and egotistic boards that arrogate to themselves functions to which they have been fitted neither by experience nor training?

LETTERS TO THE EDITOR.

The Sea View Hospital Estimates.

New York, December 11, 1913.

To the Editor of THE MODERN HOSPITAL:

I notice the following, under "Editorial Comment," in your September issue:

"The new Sea View Municipal Hospital of New York seems to be in a bad way. It was planned to cost $2,000,000, and already $3,627,000 has been expended. The Bureau of Municipal Research is asking why. But, like in most municipalities, the people of New York have become accustomed to bad guesses on institution costs."

The original estimate from which is derived the $2,000,000 legend was based on sketch drawings and the work let in a single contract. No survey even of the property had been made. It was estimated by a city department. I recognized the impossibility of deriving a reliable estimate from the information then obtainable and declined to prepare one. However, I am frank to say, that had not the cubical contents, as a result of increases in sizes of the buildings, additional buildings and the natural grades been substantially doubled in the necessary development of the problem, the hospital could have been built at about the estimate given.

The finished cost of the hospital will be less than $4,000 per bed, and I know of no similarly complete hospital erected under equivalent labor and building regulations to those of New York City that will have cost so little.

Reports of "investigating bureaus" should always be taken with a mental reservation, as these bureaus are quite as human in their managements as the works criticised. Unfortunately the entire truth is not always stated.

As architect of Sea View Hospital, I would kindly request the publication of this correction.

R. F. ALMIRALL.

Seeing the Bogey Man.

The meetings of the International Anti-Vivisection Congress in Washington recently were characterized by the usual hysteric denunciations of medical investigation. The Rockefeller Institute was particularly stigmatized as a wholesale torture house, and it was said that at hospitals human vivisection and the inoculation of patients with loathsome diseases is extensively practiced.

Dental Hygiene in Boston.

Boston is going at its problem of dental hygiene in the school in a most thorough and systematic way. At least they are "getting a line" on their work, as the following figures show:

In April, 1912, 75,000 circulars were sent to parents regarding the importance of this subject, and 50,000 replies were received. In the school year of 1912–1913, 26,439 Boston public school children received dental treatment—16,501 by private dentists, 9,938 at school dental clinics. School nurses distributed 7,700 tooth brushes, and gave 14,869 school room talks and 10,106 talks in the home on dental hygiene.

Our word orphan comes from the Greek. In ancient Greece an orphan asylum was called "orphanotrophium." The hospital for the care of the sick was called 'noscomium."

NEW EQUIPMENT

PROBLEM OF "DOCTORS' CALLS" SOLVED.

Head of Presbyterian Hospital Has Installed Loud-Speaking Telephone—"Still, Small Voice" Makes No Noise, But Is Heard Distinctly.

Mr. Asa Bacon, superintendent of the Presbyterian Hospital, Chicago, has solved the problem of doctors' calls in the hospital. He has installed a new system of loud-speaking telephones on each floor of his institution. There is a central switchboard in the downstairs main corridor, and a transmitter that looks like a small phonograph horn at the junction of the right-angle corridors of each floor. When a doctor or an intern, or the superintendent or the matron, or any person is wanted, the operator at the switchboard is notified, and she in turn presses a button and calls in a gentle voice, as, for instance, "Dr. Jones—telephone, please." This call is reproduced simultaneously in the eighteen transmitters in all parts of the hospital in which the system has been installed. The call can be heard at any part of any floor, in a voice that is low and gentle, but very distinct, and that would not disturb the most nervous or the sickest patient.

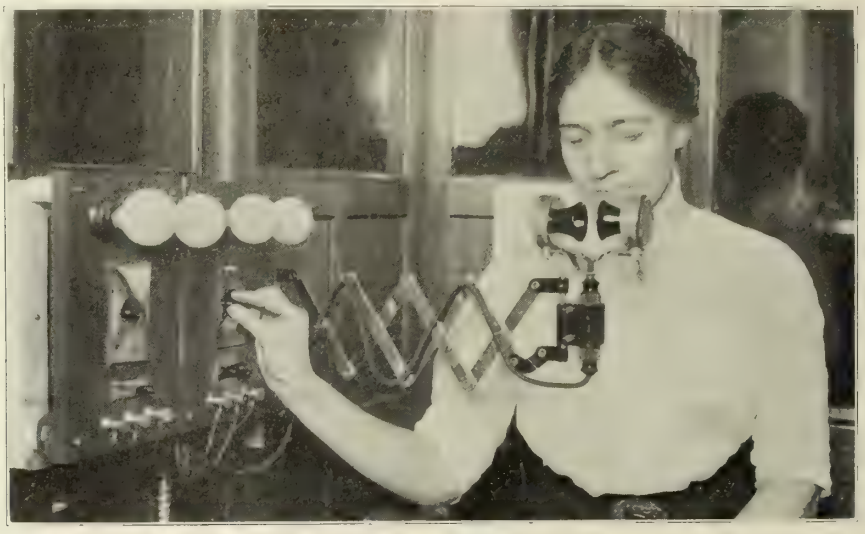

Fig. 1. Operator calling Mr. Bacon.

For a long time loud-speaking telephones have been tried out for various purposes. As far back as the World's Fair in Chicago the Bell Telephone Company served Strauss music from the Metropolitan Opera House, New York, to groups of people in the telephone company's exhibit amphitheater at the World's Fair grounds, Chicago.

This was extremely expensive at that time, and it was almost impossible to keep it in adjustment. Ever since then trials of various sorts have been made, but without a great deal of success. About two years ago a system was installed on the street cars of the Cottage Grove line in Chicago by which the conductor was enabled to call the streets from a transmitter conveniently arranged at his station on the rear of the car, but it seemed impossible to keep the adjustment of this instrument and it was finally taken out. A similar device was installed in the Great Northern Hotel to substitute for the page service for calling guests. That also was unsatisfactory and was removed.

Last summer on the lake front a system was installed as a part of the "show" during the Water Festival. There were many long waits between the water events, and at the transmission end of this system there were instrumental music, vocal singers, and monologists, and together these various features kept the crowd entertained and oftentimes in a roar of laughter, which made the waits seem less long.

At the White Sox Baseball Park for the past two years a similar system has been installed, with horns dropped from the ceiling of the great amphitheater at intervals of about 200 feet. With a small orchestra at the transmission end of the mechanism, a crowded amphitheater holding 35,000 could be nicely entertained. The various announcements were also made from this system, but again the adjustment seemed to be not exactly what was wanted and it was not wholly satisfactory.

It seems that now Mr. Bacon has made some changes, and the adjustment seems to have acted perfectly for the several weeks in which the mechanism has been doing its work in a routine way. It has revolutionized the work at the Presbyterian Hospital, and everybody is delighted with it.

There is installed in addition to this call system the ordinary hospital lighting calls, and during the writer's visit to the Presbyterian Hospital a few days ago a definite trial of the efficiency of these two systems was made. It was determined to call with a light call a certain intern who was known to be in the house, and to call with the loud-speaking telephone another intern who was known to be working with the first one at the time. Within one minute after the telephone call was sent over the building the doctor wanted had gone to the nearest telephone and answered. Twenty minutes later, when the writer left the

building, the other intern's light was still flashing and had not been answered.

In many hospitals this problem of calling doctors and various people wanted has been a most perplexing one. If Mr. Bacon has solved it by a system that is efficient, noiseless, and prompt, as he seems to have done, he will be entitled to the thanks of the whole hospital world, including patients, visitors, doctors, and managers. The installation is very simple, and any good electrician can install it, the expense being no greater than for a good electric flash system.

Fig. 2. Mr. Bacon hears the call on floor D. Notice the transmitter above his head.

Fig. 1 shows the operator working the mechanism at the transmission end in the main corridor downstairs. Fig. 2 shows the horn fixed in the corner, near the ceiling, at a point where two corridors join each other, and so placed that the call ranges down each corridor.

Efficient trained nursing in this country dated from the landing of a group of English women who came over to teach their system in 1885. They came from Guy's Hospital, London.

NEW INSTRUMENTS *and* APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

An Electrical Obesity Treatment Apparatus.

Some years ago Bergonié made a number of experiments based on electrical stimulation with a view of bringing the majority of the muscles of the body into rhythmically regulated action and independently of the patient's will. By this method Bergonié secured efficient and prompt reduction of the fatty tissue. His method, however, was not altogether popular from the fact that an ordinary faradic current was used, and, on account of the somewhat irregular action of the current, considerable shock was produced, to the discomfort of the patient.

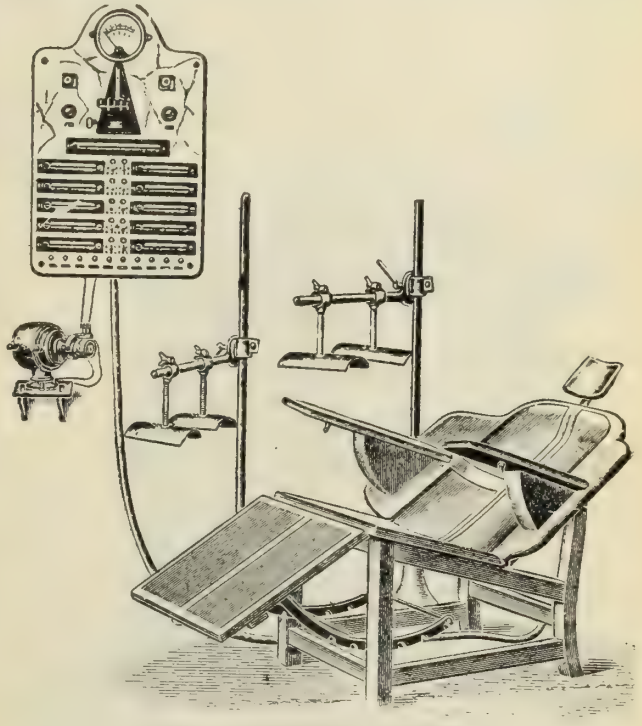

Fig. 1. Electrical obesity apparatus.

Nagelschmidt then experimented quite extensively with other forms of current. Instead of using a vibrator interrupter, he employed a rotating commutator or circuit breaker, through which a direct current was passed in quick alternation. The apparatus illustrated is so arranged that any number from ninety interruptions per second may be obtained with a current duration of 1/1200 of a second. It is claimed that the sensation experienced when using this current is very slight; that the character of the muscular contraction is mild enough to allow application to continue for hours, and then to quite an extensive range of interruptions the current may be so regulated as to produce a smooth flow, having practically no

sensory effect, or for powerful contractions, as desired. The patient is placed in an especially built chair, having large contact surfaces insulated from one another. The large size of these contact surfaces permits high milliamperage to be used while the current tensity per square inch is relatively small. A switchboard distributes current to the part under treatment by means of various rheostats. After placing the patient in a chair, the current is passed through the desired direction. The muscles of the body, so far as they are included in the circuit, are thus contracted rhythmically with great energy. It is stated that with each contraction the lower trunk muscles will raise weights of from forty to fifty pounds a distance of several centimeters in addition to their own weight. All of the muscles appear to be engaged in strenuous work, which the patient could not accomplish by voluntary exertions, yet this work is being done without the least fatigue. It is claimed that as a result of a single session (weighing a patient twenty-four hours after treatment) an average loss of weight amounting to from 200 to 400 grams may be obtained, though it is claimed that in some sessions a reduction of 1,000 grams has been made.

Container and Sterilizer for Record Syringes and Needles.

This apparatus has been designed by the manufacturers of the well-known record syringes for the purpose of keeping the syringes and needles in sterile solution, and thus always having them ready for immediate use.

The outfit consists of a heavy metal nickel-plated base, in which is cemented a glass container. A metal rack, arranged to hold 6 record syringes and their respective needles—namely, one each 1, 2, 5, 8, 10, and 20 cc. capacity

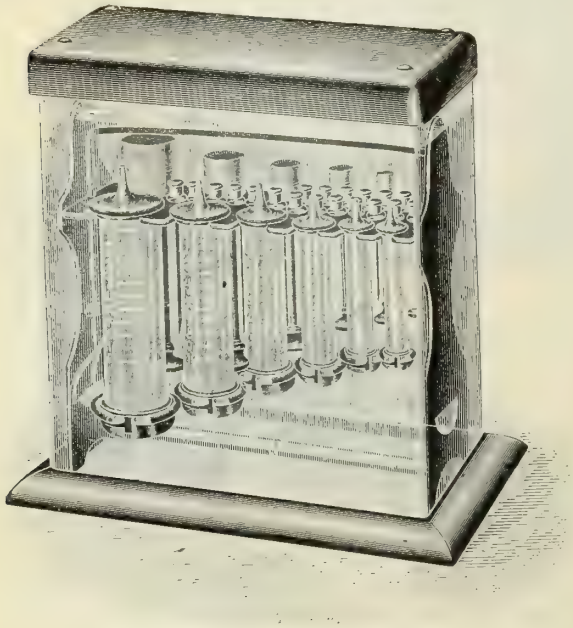

Fig. 1. Syringe sterilizer.

—and one record tuberculin syringe. When the rack is lifted out of the solution, four lugs automatically project over the edge of the glass, allowing the solution to drain back into the container. When the syringes are to be replaced in the solution, the lugs are raised together with the handle. The nickel-plated cover may serve as a tray for the individual syringes and needles.

This method of sterilization should recommend itself,

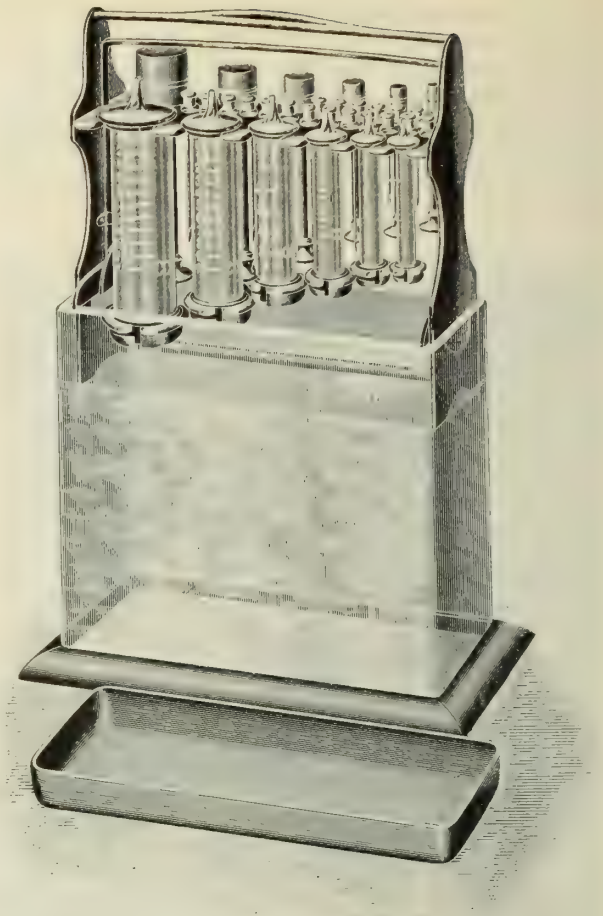

Fig. 2. Syringe sterilizer.

especially in hospital practice, as the present method of sterilization by boiling sometimes proves rather expensive in the course of the year.

A New Set of Uterine Dilators.

This set of dilators, which was designed by Dr. Jolly, were shown at the International Medical Congress in London last August, where they found immediate favor among the gynecologists and obstetricians. They are very light in weight, being made of spun brass and nickel plated. The anterior portion, as will be noticed from the

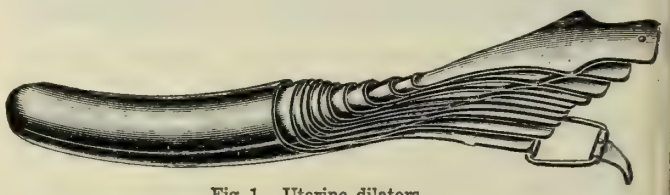

Fig. 1. Uterine dilators.

illustration, is open, so that the whole set can be nested, taking but a small amount of space in the instrument cabinet or physician's bag. A clasp is used, so that the dilators may be locked together for transportation.

The dilators are well shaped, having practically the same curve as the Hegar dilators, being slightly conical at the end, the difference between the point and the largest part ranging from 4 to 6 mm. The dilators are made in ten sizes, as follows: 3/7, 5/9, 7/12, 9/15, 12/16,

15/21, 18/24, 21/27, 24/29, and 27/31 mm. These dilators can now be secured in this country in two different assortments of sets, the small set containing six and the larger set ten sizes.

Rowntree and Geraghty's Modification of the Hellige Colorimeter for Renal Functional Test.

The method used by Drs. Rowntree and Geraghty, of Johns Hopkins Hospital, for the determination of the separation of phenolsuphonephthalein is recognized as being extremely accurate, and at the same time simple if their technic is carried out. The colorimeter of Hellige has been modified so as to better adapt it to the above test.

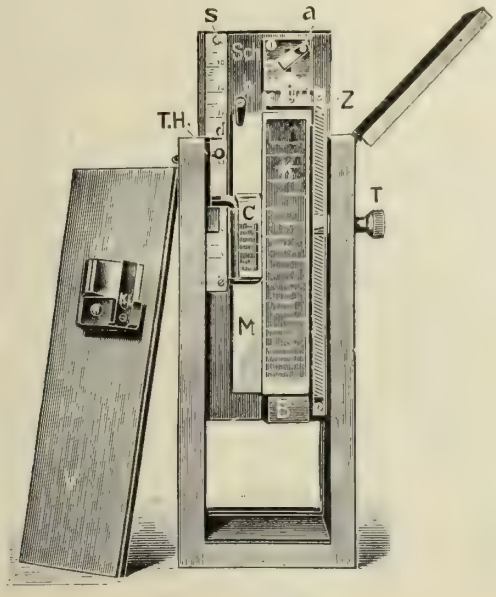

Fig. 1. Colorimeter.

The apparatus consists of a wooden case, the back and front of which are in the form of removable slides, as shown in Fig. 1. The front slide V is fitted on its outer side with a slotted plate, which forms the observation window, and behind this on the inner side is carried a Helmholz double plate D P. The latter is held movable between two spring clips K L. The back, Sch, can be moved up and down in a convenient manner with a rack pinion Z. The back plate has attached to it a hollow glass wedge, which is filled with the standard solution, made by diluting 1 cc. of phenolsulphonephthalein solution from an ampul with about 200 cc. of water, adding 10 cc. of a 5-percent solution of sodium hydroxid and sufficient water to measure one liter. This is the standard with which comparison will be made. On the left side of the plate is fitted a scale S, which travels along a pointer d. The open middle portion of the back between the rack and the scale is covered by a ground glass plate M, which is held in position by a small clip H. C is a small glass trough which receives the liquid to be tested. Both the standard wedge K and the specimen C having been placed in the instrument, the sliding scale is moved down to zero and the front of the box replaced. The observer now looks through the small slot, the knurled thumbpiece T is turned, and a reading taken when the color intensity, due to the thickness of the standard fluid, is equal to that of the solution under test.

The specimen to be examined is prepared by injecting the patient with 1 cc. of a solution of phenolsulphonephthalein, containing 6 mg. of the substance per cubic centimeter, either subcutaneously, intramuscularly, or intravenously.

Specimens of the urine are taken at intervals of five, seven, nine, and eleven minutes, the specimens being kept in small beakers containing a few drops of 10-percent solution of sodium hydroxid. The time during which the coloring matter appears in the urine—the latter assumes a reddish color by means of sodium hydroxid—is noted, and the patient is thus taught to collect in a larger beaker, after one hour and after two hours, but separately, the whole urine without any loss. The urine collected after one hour, which indicates the appearance of the coloring matter, is placed in a liter measurement flask, slightly diluted with water, 10 cc. of a 10-percent solution of sodium hydroxid added, and filled up with water to the mark. The specimen is then filtered and the cup of the colorimeter filled. The percentage of coloring matter in the urine collected after the second hour is determined, and, if necessary, is determined in the same manner a third or fourth time.

A New Instrument Sterilizer as Suggested by Dr. Fred Kuhn, Vienna.

This sterilizer has recently been placed on the market, and seems to have certain advantages in design which would recommend it as an office sterilizer or for the hospital dressing room. The chief advantage lies in the fact

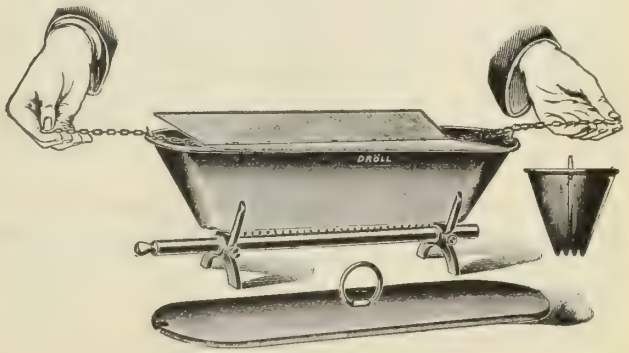

Fig. 1. Instrument sterilizer.

that it has a large heating surface. The body of the sterilizer is V-shaped, with grooves running longitudinally. These grooves are placed directly over the flame of the burner, and, on account of the surface which is exposed to the heat, water may be brought to the boiling point in less than two minutes. A hinged tray may be lifted out by two chains and held in position with hooks, as shown in the illustration. This allows the boiling water to drain back into the sterilizer and at the same time acts as a "hot plate." The body of the sterilizer, as well as the cover, are stamped of one piece of metal, thus preventing leakage in case the sterilizer should run dry on account of parts becoming unsoldered.

Many medieval writers have stated that hospitals originated from a combination of three supposedly antagonistic influences—religion, war, and science. This is disputed, and the truth probably is that Christianity was the origin of hospitals, as we understand the term. One writer puts it, "Hospitals were the distillate of Christianity, and war and science the byproducts." But hospitals, war, and science all antedated Christianity, so one may take his choice of theories.

NOTES on NURSING

A Royal Nurse.

"Sister Irmengard"—Archduchess Isabella, a niece of the Emperor Francis Joseph of Austria—who has for some time served as nurse in the Rudolph Hospital, Vienna, has accepted the appointment offered her by King Alfonso of matron of the Red Cross Hospital at Madrid. It will be remembered that the marriage of the Archduchess proved very unhappy, and was after a few weeks annulled.

A Hint to the Young Nurse.

Lastly, leave the anxieties of your most serious case behind you when you go off duty. To the very young nurse this may sound almost heartless, but in reality it is your greater service to your patient, for he is in the care of others, and your greatest efforts now in behalf of your patient lie in your relaxing and finding that quiet rest and sleep which will enable you to go trustingly through another night of careful watching when you are again on duty.—Miss May Hollister in American Journal of Nursing.

Florence Nightingale On Women.

Miss Nightingale had her moments of depression, and, as we have already indicated, relied more on men, and was better served by men than women. "Women have no sympathy," she wrote. . . . "No woman has excited 'passions' among women more than I have. Yet I leave no school behind me. My doctrines have taken no hold among women. Not one of my Crimean following learned anything from me, or gave herself for one moment after she came home to carry out the lesson of that war or of those hospitals."—From Sir Edward Cook's "Life of Florence Nightingale," in the British Journal of Nursing.

A Fourth Year of Nurse Training.

New Zealand has definitely established a fourth year of nurse training. In the Auckland hospital the innovation has been set to work. The last year is to be given over to massage, special training in maternity service, and studies in hospital administration.

Coincidentally with this added curriculum, the demand is made for specially qualified teachers from the medical staff, who shall be paid for their services. At the end of the course it is proposed that those who pass creditably shall receive diplomas of a special kind. It is prescribed further that "nurses possessing recognized general medical and surgical certificates shall sit for examinations, and, if successful, shall receive special certificates."

A Good Example.

The late Henry Untermeyer, of New York, by his will, recently probated in that city, set an example that may be followed by others with every certainty that it will do a great amount of good. He left to Mt. Sinai Hospital Training School for Nurses the sum of $2,500, the income of which is to be given each year as a prize to the pupil nurse holding the best record for the year for kindness and proficiency. Pupil nurses are very human young women, and there is hardly a more appreciative class of workers. Unfortunately the habit of regarding them as a fair class for exploitation is too common. The "pretty nurse" is used for decorative purposes in the hospital too often, and as a beast of burden the rest of the time. May the suggestion in Mr. Untermeyer's will find lodgment where it will do the most good.

California's Eight-Hour Fight.

The fight over the eight-hour day for pupil nurses in California is growing ever more vigorous and vicious, even though the United States District Court has upheld the constitutionality of the act. The women have openly admitted that the law is not a good thing for the hospitals, but that the public derives the benefit.

Mrs. Charles Farwell Edson, discussing the matter a few days ago before the women members of the Railway Mail Auxiliary at Los Angeles, spoke partly as follows:

"It has been demonstrated by practical statistics that 95 percent of the women who come under it are materially benefited by the law, and consequently an amendment was added during the last session of the legislature including the student nurses. Graduate nurses are still permitted to work as long as they choose, but we felt that it is unfair to the public to permit student nurses to be put on cases that require skilled attention and kept on them for weeks at a time at the rate charged for trained nurses. That frequently has been done to the detriment of the nurse and the patient. Since patients dislike a frequent change of nurses, it becomes necessary for trained nurses to attend only to serious cases, which is good for the enforcement of the eight-hour law, but which has excited the animosity of the commercial hospitals, which are forced to pay higher wages for skilled attention. But the public benefits, if the hospitals do not, from this change."

Younger Probation Nurses.

The question of the shortage of nurses again occupied the attention of the Metropolitan Asylums Board at a recent meeting in London. The Children's Hospitals Committee reported that it had decided to reduce by one year the age at which probationer nurses might be engaged at children's hospitals. The present minimum was 19 years, but difficulties had been experienced in obtaining a sufficient number of candidates of this age, although applications were sometimes received from candidates of 18 years of age who were in every way suitable. The committee thought it likely that one cause of the shortage of nurses was the fact that the career could not be entered upon early enough; healthily situated children's hospitals, such as Queen Mary's, might serve a useful purpose in allowing young women to start their training at an age when many were desirous of beginning work. The committee learned that probationers were taken at 18 years of age at several children's hospitals, including the Royal Hospital for Sick Children, Glasgow; the Alexandra Hospital for Children, Queen Square, London; the Birmingham and Midland Free Hospital for Sick Children; the Children's Hospital, Cheltenham; and the Royal Liverpool County Hospital for Children. It would be arranged that probationers of 18 years of age would start work on the girls' side of the hospital during their first year.

A surplus of $700,000 has accumulated in London since the Lloyd-George panel doctors' law went into effect, because 400,000 poor persons have declined to employ the panel doctors assigned them.

QUERIES *and* ANSWERS

Terrazzo Floors That Crack.

To the Editor of THE MODERN HOSPITAL:

What is the advantage of the six-sided slabs of terrazzo flooring over that which is spread solid for a whole floor? The slabs cost more. T. W. A.

The slabs cost a little more—not much, but they are cheaper in the end. This kind of flooring is generally used with steel and concrete construction. After the building is completed, it will always settle a little, and almost invariably your solidly laid floors will crack—sometimes more and sometimes less, according to the amount and directions of settling. You never can patch a solid terrazzo floor; the more you try, the worse it looks. But the cracks will usually follow the cracks between the slabs, and, even if a few slabs crack, you can remove them and put in others, and you will not know that there ever was a crack. Some very fine new hospitals in this country are badly marred by cracks in their solidly laid terrazzos.

White Tiles Turned Gray.

To the Editor of THE MODERN HOSPITAL:

How can we bring back the pretty white effect in our vitrified tile operating room floors? They are the little three-inch, six-sided tiles, guaranteed by the contractors to stay white. We have had the contractors here any number of times, and they scrub them and make excuses, putting the blame on us for letting the floors get so dirty, but they do nothing else.

C. D. M., Minneapolis.

Although the manufacturers claim that these tile are impervious, they certainly do admit dirt. I have washed these tile with soap and warm water to clean the outside, and have then placed them in various culture media to test their impenetrability to microorganisms. I have never got any cultures when the technic was dependable, so they do not harbor harmful bacteria. But you will never get them white, no matter what you do—at least I have never been able to do so, and have almost exhausted chemistry, acids, and alkalies in the attempt. You can get them white by grinding them down, but that is wholly impractical.

JOHN A. HORNSBY.

Graniteware Kitchen Utensils.

To the Editor of THE MODERN HOSPITAL:

Is there any place where we can buy graniteware kitchen utensils like those that we used to buy years ago? I am sure that the stuff we buy now cannot compare in durability with the old kind. The enamel chips off on the slightest provocation. A. B. D., St. Louis.

You cannot buy that old, durable stuff now for the reason that the public demanded something else, and just what a foolish public wanted is being served to it. The ware to which you refer was made of soft cast iron, thick and heavy; the enamel was fused into the pores of the iron at something like 2,500° F., and the two became one substance that could not be broken apart. The public found fault with the weight of the utensils, and the makers then changed to hard rolled steel, in which case the enamel is merely baked on and not fused into the metal. That is why it chips. There are practically no patents on the new stuff and the old patents are all expired. Today the making of graniteware and enamelware is merely a question of price; the public wants cheap stuff and is getting it.

Distributing Food Costs.

To the Editor of THE MODERN HOSPITAL:

When we figure the cost of raw food for a hospital, we are expected to charge against patients the cost of their own food and that of the well people necessary to care for them. The question of the distribution of the food cost between the two classes, patients and well people, has come up in our hospital in an attempt to cut down the bills. Can you help us solve this problem?

A. C. E.

We can estimate and speculate as far as we please on the subject, but I doubt whether we can settle anything, and, moreover, I doubt whether the solution will be worth anything. Dr. Mann, of the Massachusetts Homeopathic Hospital, Boston, in a report to the American Hospital Association last August, debated this topic, and he also cited the opinion of Dr. Howland, of the Massachusetts General Hospital, to reinforce his own judgment that such microscopic inquiry as this costs more than it is worth.

If all the help are fed in a separate kitchen, at a distance from the hospital proper, and if the food is received in and distributed from separate store rooms, it might be possible to tell just what each kitchen was costing, and the costs would then be broken up on a per-capita basis. But there would be a lot of waste and unprofitable feeding under these conditions, because left-overs from a meal in the patients' kitchen could be economically fed to well people later, and the cost account would be muddled thereby, as it would be impossible to fix an accurate price for such food.

Then, if you buy carcass meat for the institution, with the intention to feed the choice cuts to patients and the cheaper parts to well people, just where are you going to draw the cost line—which piece has cost 22 cents, for instance, and which has cost 9 cents, when the carcass cost, say, 17 cents as a whole? The whole argument is about as satisfactory and profitable as the one involving the short- and the long-tailed rat as to which got in the hole first.

Foolproof Water Mixers.

To the Editor of THE MODERN HOSPITAL:

Is there any hot and cold water control valve or mechanism on the market in which the temperature of faucet waters can be accurately measured? We are having much trouble, especially with the hot water faucets, and we are fearful all the time that nurses may burn patients by turning too hot water into the bath tubs, and that they will burn themselves at the hot water faucets.

W. T. V.

Various articles have been written concerning the value of temperature control in the modern hospital. Statistics have been compiled, and the consensus of opinion indicates that the irregularity of room temperature and improper ventilation is due to the inefficiency of the man in charge, rather than to the system installed. Careful planning by eminent engineers and authorities in hospital equipment have brought about satisfactory results, which have emphasized the fact that it is possible to control temperature, and properly ventilate each room by scientific methods.

Special attention is given to sterilization, filters are installed to purify the water delivered throughout the insti-

tution, water is heated automatically with steam from most elaborately equipped power plants, giving a supply of hot water in abundance for cleansing and bathing purposes.

Rarely, if ever, do we test the temperature of the water which flows from the faucet provided for filling the bath or supply to the shower. A test with the thermometer in many cases would instantly register the signal of danger. With water flowing at a degree of temperature above the scalding point, demented patients, convalescents, and children are too often allowed to go unattended to the toilet and bath room, with occasionally a serious and alarming result. Possibly the nurse may accompany the patient and may have adjusted the flow of hot water at a desired temperature, and thus performed her duty. But the nurse or attendant cannot control the individual if he draws cold water from a plumbing fixture nearby; the pressure and volume of the flowing hot water changes instantly, and it is impossible at such times to remove the patient quickly. Consequently an accident occurs, the patient suffers, and the cause is attributed to the inefficiency of the man in charge of the plant from which the hot water is supplied.

Equal in importance to the regulation of the temperature of the room at all seasons of the year is the regulation of the hot water, so that bathing under all conditions from the maternity and children's ward throughout the hospital to a convalescent stage may be administered with scientific exactness within a degree of Fahrenheit without the use of live steam.

Engineers who realize the necessity of circulating the water throughout a large institution at a high degree of temperature have investigated to the full extent, and the statement is made that in the planning of hospital equipment in the future it will be possible to safeguard patients from the dangers of high temperature. In many hospitals during the past two years this has been accomplished in a most satisfactory manner by use of efficient thermostatic mixing valves, which will maintain the desired temperature delivered to a single plumbing fixture or group of fixtures, regardless of the condition as to unequal pressures or fluctuating temperatures.

Absolute nonscalding and foolproof protection is essential. Maximum economy in water and fuel use results in the adoption of proper and efficient hot water regulation throughout the hospital.

How to Get Rid of Vermin.

To the Editor of THE MODERN HOSPITAL:

We are troubled with rats, mice, and roaches—or, as they are sometimes called, water bugs. We fight them faithfully, keep things as clean as possible, yet they persist. What can we do? Part of our building is old, but these pests are invading the new building. J. W. B.

With all due respect for your assertion that you are fighting them faithfully, I take the liberty of doubting your statement. If you had written that you were fighting them "vigorously," I would believe you. As a matter of fact, isn't this what you are doing: calling in the housekeeper and giving her a good talk about getting rid of your pests? And isn't she then calling in one of the maids or men servants and telling them to get busy? In other words, are you not contenting yourself with raising a row about it, and leaving the work to some one else, generally a person who is paid for hand work and not head work?

These pests are hard to rout out, once they are established, and only good head work will vanquish them. Get on the job yourself, make a personal examination of the territory where they seem to have their rendezvous, and find out the conditions that provide a home for them.

Each pest will have to be fought separately. Don't look for rats upstairs, unless for an odd one here or there that may have become penned up so that he can't get back to his brethren. Such a one you may catch with the so-called "squee-gee" spring board trap. Cut the tongue of the bait board off short, so that he will have to go right up under the spring to set it off; otherwise it will hit him on the nose, and you will never get another chance at that fellow. The makers make the bait board too long.

The only way to get rid of rats is to catch them, and it can't be done with traps. A few can be caught that way and a few can be poisoned, but rats are just like human beings—some are smart and some are stupid; you can't catch the smart ones. Get in a professional "pied piper." There is one of these men in almost every community, who can take his lantern and tongs, go to the kitchen or the garbage barrel, or the basement, and get every rat. Don't let him stop because he catches only two or three a night; it is these two or three that will bring a new brood along every fifteen or twenty minutes—almost. Then stop every opening by which they can get in from next door. Sometimes there are basement doors that are left open, sometimes runways under the basement floors; but they can all be stopped up with waterproof cement or glass or metal. That will end your rat troubles. It may take your expert every night for two weeks, but it is worth it.

You can't catch your mice, and you are wasting your time trying. The few you can trap or poison will make no impression; they breed faster than the traps and baits will catch them. Starve them out, and you can't do it by stopping up a hole here and there. They live in the floors, the walls and ceilings; but they must eat, and, if you prevent them from eating, they will die. So go over the house, not only "faithfully," but efficiently; find every exit and stop it, not with a plug of wood or metal, but with a large piece of tin or sheeting nailed over. They will eat a hole through an inch plank beside a former runway hole in half an hour, and a mouse's time is not too valuable for that; but if, when he gets through the wood, he finds a tin plate between him and his accustomed food supply, he will try another hole and then another; he will go through white plaster, but not through cement. If you must use white plaster or plaster of paris to stop holes, put powdered glass in it on which he can use his teeth. The main thing is to actually stop every hole, so that he can't get through or cut around. Do it yourself or personally superintend the job. Mice find good feeding in the wards and private rooms, so the holes in them must be effectively stopped also. Don't forget the spaces around the pipes.

Now about roaches or brown water bugs. These insects live in the dark, warm, wet places, usually around the water pipes or in closets under the sinks. You can't fleep your plumbing dry because of the sweat of the cold pipes; but you can open up things in many places, and when you can't open up you can seal up with cement. Make everything bug tight. Don't leave this to a servant, but see to it yourself, and, before you begin, sprinkle borax liberally about their exits, or, better still, set dishes of concentrated lye and molasses, equal parts. When you have killed all you can, seal up the cracks—not just those that are visible, but all of them. Sometimes these pests live in the basement and wander about the house to the top floors at night.

HINTS FOR HOSPITAL SUPERINTENDENTS.

Buy high-priced rubber goods. There is nothing else in the hospital so expensive as cheap rubber.

Don't believe everything you hear in the hospital, but hear everything you can. Knowledge is power, but don't encourage "snitching." Heaven defend us from tale bearers. They often tell us lies that we cannot "catch them at," they generally prejudice us against worthy employees, and they always make us unhappy.

Many rooms in the hospital will look warmer and more inviting and attractive if they have rugs on the floor. Extremely pretty, figured rag rugs are made nowadays that are inexpensive and wear forever. They are washable and can be sterilized. It is a great comfort to have a lot of them about.

In nearly every hospital there is a scarcity of flower pots. These can be bought in varying sizes for an average of about 50 cents apiece. They are fiber, come in green and terra-cotta colors, and can be had of the woodenware houses. They are very light, are entirely impervious, and will last for years.

The walls in hospital rooms look bare and unattractive at best, and sick people get very tired gazing at blank walls, no matter how soft a color they may have. Some exceptionally pretty effects can be had with cheap prints pasted to the wall, given a paint border and varnished over. These are especially attractive in the maternity department and for children.

Make your heads of departments friendly. Have plenty of conferences with them. Hear what they have to say about their work. Make them give you advice, and take it a good many times. The very fact that they give you advice shows that they are thinking about their work, and the fact of your taking their advice shows that you appreciate them, and you will get a better service all around.

Encourage visiting friends of the hospital to take an interest in things. Show them the things in which you think they would be interested. Tell them little stories about incidents in the institution. Awaken their lively interest in the hospital and its work. A little story about something that a little child patient did, or said, will travel further and often do more good than a volume of sermons or a discourse on finances.

Some of the largest donations ever given to a hospital come from grateful patients, and a sick pauper of today may be a millionaire tomorrow—or in ten years. A man walked up to a superintendent not long ago and handed him a check for $1,000, saying: "This is interest and principal that has been running for thirty years. This hospital was good to me when I had no money. Now I can pay. I was a boy then. Now my daughter is upstairs. She has a new baby, and I am a grandfather. I give you this money, and hope it brings me good luck and does you some good, too."

Try to persuade your doctors to attend such little ward ceremonies as high rectal irrigations, stomach washings, and test breakfasts. Try to get them to take personal charge of intern's work, like venesection, serum and antitoxin injections, subcutaneous and intravenous irrigations. Sometimes these things fail to act because they are not properly done, and a doctor can often suggest improvements; besides, doctors are generally under the impression it takes no time or labor to do these things, and they call for them when it is unnecessary, which they wouldn't do if they were brought in personal contact with the work themselves.

Hinged screens on the doors of private rooms will be greatly appreciated by convalescent patients. The carpenter can make them out of 1x2 dressed stuff, and the painter can stain them to conform to the woodwork. They are made with one large panel at the bottom and two small ones above. Usually they are made to come within about a foot of the floor at the bottom, and extend a little more than head high at the top. They serve to screen the patient from prying eyes of passersby, and yet he gets the benefit of the busy life on the corridor. He hears action and talk, and likes it. The door can be closed when he wants to be quiet.

Appoint somebody in the hospital to have charge of apparatus, tools, and appliances of all sorts, and to keep them in order. What is everybody's business is nobody's business, and don't expect the person that you charge with this duty to be popular in the hospital. Only a person with a continual grouch can be successful as the custodian of apparatus, because everybody wants to borrow, everybody breaks things, and nobody wants to be held accountable.

When you find a worker in the hospital doing his job well, even if he is only a floor scrubber, show him that you appreciate his service. You needn't raise his salary every time, but a kind word and a little encouragement will do just about as much good and cost only a little effort. There are some hospital administrators who are as begrudging of a word of appreciation as they are of a raise in salary. They could always afford the one, while they might not be able to give the other.

Don't ask nurses to carry each individual tray from the serving room to the patient. That is a waste of energy. Dr. Gilman Thompson, of New York, put a pedometer on a nurse not long ago who had twenty patients to feed, and she walked seven and a half miles feeding these twenty people three meals. Then he put in a food truck and saved five miles a day for the nurse. It takes a nurse about two hours to walk five miles and another hour to handle the trays, so that the food truck saved the nurse, and therefore the hospital, about three hours a day on every twenty patients.

An active, virile women's board is about the best asset that any hospital can have. Women have a great deal of sympathy for the sick, and nowadays, it seems, they have a great deal of leisure. You will be doing them an excellent service if you can find work for them, and they will be grateful. Women talk a lot, too, and, if they are made to feel that their service is appreciated by the hospital people, they will keep the hospital in the good graces of the public. Women are also great beggars for charity, and they will fill your larders and your linen closets. Therefore, get a good board, with plenty of members, and a good, active president, and keep them so busy rustling on the outside for the hospital that they won't have time to meddle with your business inside.

BOOK REVIEWS.

Orientation of Buildings or Planning for Sunlight. By William Atkinson, Fellow of the Boston Society of Architects. Cloth. Pp. 140. Price, $1. New York: John Wiley & Sons, 1912.

In his book, of 140 pages and a great number of illustrations, Mr. Atkinson has really achieved something. His main purpose has been to demonstrate the construction of high buildings in such a way that the largest amount of light can be achieved over the greatest number of hours in a day and at all seasons of the year. He concludes that the best way to do this is to build with the northwest-southeast or northeast-southwest exposure, so that the sun in traveling around will reach the greatest possible number of windows for the longest possible time. There are an immense number of drawings, showing shadows for various seasons of the year and various hours of the day. His treatment of sunlight in hospitals covers about thirty pages, and he shows the different plans and different groupings, with various heights of buildings and their shadow markings, which are most illuminating.

The author's illustration of the style of architecture of the Peter Bent Brigham hospital—that is, the arched single-story pavilion—would be likely to bring up controversies among thoughtful hospital builders, and not all of us would agree with Mr. Atkinson, who seems to think that the style of his hospital structure need depend on nothing else than the question of sunlight, which, of course, is the fault of all architects. Mr. Atkinson forgets that this building has to be cleaned and has to be administered, and that the question of cost has something to do with the style of architecture; but his book, on the whole, is a most illuminating one and helpful.

An Operating Theater in Private Practice. By C. Hamilton Whiteford, M. R. C. S., L. R. C. P. Cloth. Pp. 75. Price, 3s. 6d. London: Harrison & Sons, 1912.

This is one of the sanest little books concerning the subject-matter of the discussion it has been the writer's pleasure to see in a long time. It is a small book of 75 pages, and describes the operating suite of a "Nursing Home" with which the author had much to do in the planning. He discusses everything—arrangement of rooms, floors, windows, doors, water supply, light, heat, signals, sterilizers, and so on. He even goes into the details of material for the operating rooms, such, for instance, as costumes for the doctors and nurses, caps, masks, rubber gloves. He gives the technic of preparation of the patient, discusses instruments and trays, dressings of various sorts, lotions, catgut, goes into the question of positions of the patient, discusses all sorts of operating room accessories, such as bottles for soap and saline solutions, nail brushes, irrigators—in fact, there is no detail of operating room architecture, or equipment, or technic, that the author doesn't go into in a sane and sensible manner. It is a most instructive little book.

Diet Lists of the Presbyterian Hospital, New York City. By Herbert S. Carter, A. M., M. D. Cloth. Pp. 129. Price, $1 net. Philadelphia and London: W. B. Saunders Company, 1913.

We have come to recognize the diet lists of the Presbyterial Hospital as authoritative. We can, therefore, welcome a book on the subject of these lists. In the 121 pages of this book almost every phase of special diets is gone into, with lists for various purposes and comments on the various forms of diet. These comments are, of course, the most valuable part of the book, because they explain just why certain articles are given and certain articles withheld. In the measurements of chemical contents of the various items of food the Atwater tables of the United States Department of Agriculture are used.

Applied Bacteriology for Nurses. By Charles F. Bolduan, M. D., and Marie Grund, M. D. Cloth. Pp. 160, with illustrations. Price, $1.50. Philadelphia: W. B. Saunders Company, 1913.

This is about as simple a presentation of the very diversified topics which we usually classify under "bacteriology" as could be imagined. The authors take nothing for granted. They begin with a short history of bacteriology from its inception in the seventeenth century down to the present day. Besides plain, simplified study in the various microorganisms, there are chapters on disinfectants and sterilization and infectious diseases and their transmission; there are also short treatises on immunity, antitoxins, and serums, and a chapter each on the bacteriology of milk and water and food. The usual sources of infection in the various so-called infectious diseases are debated in an interesting manner. The book is in every sense what it claims to be, "Applied Bacteriology for Nurses." Of course, if we were to go into the question of whether the average nurse can assimilate the matter in this book, we would be upon dangerous ground, because a very excellent general education is presupposed in the student. The book is extremely well illustrated, with a few cuts in colors.

Modern Methods in Nursing. By Georgiana J. Sanders, formerly superintendent of nurses at the Massachusetts General Hospital, Boston. Cloth. Pp. 881, with 228 illustrations. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1912.

This is the third reprint and the second revision, and it is a most excellent nursing manual and reference book on nursing. Almost every topic is discussed in a sane and sensible manner. It seems difficult to go into such topics as bacteriology, the various acute infections, and the nursing technic in surgical cases without muddling the subjects beyond the capacity of most pupils in training, but the author seems to have done it all quite satisfactorily; in fact, she has constructed two books in one—the one wholly satisfactory for the backward young woman who hasn't had a very good education, and the other for advanced students who are quite capable of mastering the intricacies of bacteriology and the kindred sciences. The food chapters are especially worthy of comment. Without being in the remotest degree hazy or complicated, there is a tremendous amount of interesting matter on the physiology of the digestion, the chemistry of foods, and their preparation.

Most works on nursing that are as pretentiously constructed as this take the reader into abstract discussions of the various topics, usually from the standpoint of science, and to this extent most of these works are valueless. Miss Sanders has achieved almost the impossible in this respect, as, for instance, she discusses vomitus, sputum, feces, urine, etc., and the technical examination of these excreta, including such technic as Ehrlich's diazo reaction, and not for a moment does she ever leave the viewpoint or the point of comprehension of the nurse in training. The book is an excellent one in every respect, and every nurse and every nurse pupil ought to have it.

One of the earliest Chinese explorers of the interior of India returned with the report that there were hospitals in the least civilized parts of that country where human beings and domestic animals were given the same care.

WHAT EUGENICS REALLY IS.

Popular Interpretation Wholly Misleading—Study of Heredity Must Precede the Remedy.

The science of eugenics seems to have got into the hands of its enemies. At least many of us think it is going in the wrong direction and along illogical paths. It is therefore refreshing to have a halt called by someone who has a working knowledge of the science, and who is familiar with the steps that have been taken to bring it to the present status.

Professor Karl Pearson, in a recent letter to the London *Times*, has applied so wholesome a corrective, and has administered such a sane warning to those who have acquired a hysteria on the subject, that a portion of the letter is reprinted:

"I should be glad if you can spare me space in a journal which reaches the more serious-minded section of our population for a word on the present position of eugenics as a science; for to those of us who wish to spend our remaining powers of work in the study of the factors which make for race efficiency the current attitude of public opinion on the subject of eugenics is at once disheartening and exasperating.

"It is well known that the founder of the science of eugenics, the late Sir Francis Galton, thought that progress toward increased race efficiency could be made by two routes: 1, by the scientific study of heredity and environment as they bore on racial development; and, 2, by a popular movement emphasizing the importance of these factors in national welfare, and urging their proper appreciation by legislators and social reformers. It is difficult to conceive any reasonable opposition to such a view; but much difference of opinion may exist as to whether very definite progress by 1 should not be made before we start on 2. Several of us who were working on the subject differed from Sir Francis as to the relative urgency of 1 and 2; we saw the danger that before the lines of the science of race efficiency were firmly drawn and substantial foundations laid, the whole subject of the new science would be made ridiculous by the efforts of an uninstructed press to tickle the taste of a jaded public, using catchwords from a science which implicated in certain branches—even as the sister science of medicine does—problems of sex.

"Some of us were not so young as to be ignorant of the débacle which overwhelmed sociology owing to the overhasty popularization of an immature branch of knowledge in 'social science' congresses. We predicted a like fate for eugenics. Sir Francis Galton was in the problems of race an optimist—a splendid optimist; but even he in the last few months of his life saw that the popular movement he had started was likely to outgrow its knowledge, and feared that more evil than good might result from it. This fear seems to me to have been sadly realized in the few years that have elapsed since his death.

"Eugenics, in Sir Francis Galton's mind, was to be a science of race efficiency, with its academic center in every university—a great and increasingly important science. It has become a subject for buffoonery on the stage and in the cheap press. We are treated to 'eugenic' marriages and to 'eugenic' babies, and to 'eugenic' plays which have nothing whatever to do with the problem of race welfare; officials of eugenic societies submit to being interviewed with regard to well-advertised babies, and anyone who stands wholly apart from such absurdities may wake up one morning to find his name associated with a 'eugenic' baby, whose very existence he has never heard of! He is left with the alternatives of grinning with the rest of the world or bringing an action for libel.

"What we feared might result has become a fact. Eugenics is rapidly developing into a topic for the poseur, the 'Kongressbummler,' and the paragraphist. 'Eugenic aspirations have begun to appeal to the imagination of the public,' so the report of a eugenic society tells us, and the fitting comment is found in the public writing of the daily press and contrasting the relative effectiveness of 'eugenics' and 'ancestry'! Even on a slightly higher plane we find the same disheartening experience, eugenic publications and eugenic congresses issuing statements with regard to such vitally important topics as insanity, mental defect, or the influence of heredity and environment which are obviously or demonstrably incorrect. We have not yet nearly adequate knowledge on these topics. Years of patient work in medico-social observation, in genetic experiment, and in careful study of family history are needed before the laws of eugenics as a science can be dogmatically stated. When we meet such dogmas proclaimed in the name of eugenics as 'At last it is possible to give definite advice to those about to marry or who do not wish to transmit their undesirable traits. . . . Weakness in any trait should marry strength in that trait, and strength may marry weakness,' we stand aghast at the evil worked by the rapid popularization of 'eugenics' and recognize the certainty that a movement thus careless of its facts and vaunting in its conclusions must collapse, as the older 'social science' collapsed.

"The actual science of race efficiency, the study of the relative influence of heredity and of environment on racial welfare, will not collapse; it has, I believe, a great future before it, but it will inevitably be damaged by the hasty popularization which has misapplied the word invented by Sir Francis Galton to describe a definite branch of science. My object in writing to you, sir, is to emphasize the point that much that is posing as 'eugenics' today has nothing whatever to do with science; that students of the science of race efficiency will be compelled more and more to drop that much-abused term, and to class their work, as the Germans have done, under the broad titles of race hygiene and genetics. Let those who have at heart the great problem of race efficiency turn rather to the academic than the popular side of the movement. What we need in this country is, in the first place, knowledge, and this is to be obtained only by establishing in close connection with all our universities laboratories for the study of medico-social statistics and for inquiries as to infant and child welfare, and institutes or farms for experimental breeding and for the study of experimental evolution."

EUGENICS AS OLD AS HISTORY.

Ancient Greeks Employed Methods More Radical Than Now Suggested—Doctors Were Arbiters of Marriage.

Of course we learn from history that the questions relating to race suicide and the betterment of the human race were problems almost back into the savage state of mankind, but nevertheless it is quite a shock to our self-esteem when we are told that eugenics is not, after all, a modern science, and that even the name was not originated by Sir Francis Galton, but is of ancient Greek origin—name, science, and details.

The Greeks, with their philosophy of stoicism, went further than it is likely that even the most radical theorists of our day would dare suggest, and they did it in fact as well as in theory.

Dr. M. Moissidés, a Greek physician, now living in Constantinople, has contributed a most interesting chapter on this subject in a Greek periodical, translated by the British *Medical Journal*. Says Dr. Moissidés:

"The Greek laws show that these people were a good deal more advanced and more thoroughgoing in the application of eugenic doctrine than we are even at the present day. Great attention was given to the matter by statesmen and philosophers, as well as physicians, and a keen interest in the matter was taken by women. In the regulation of marriage, careful selection—natural and artificial—was recommended by the great thinkers of ancient Greece, and this was enforced in some places with excessive rigor. In Crete the handsomest and most robust of each stock were compelled to intermarry, with the object of perpetuating a fine type. It was recognized that puericulture before procreation was the most important part of eugenics. Lycurgus forbade unions which might imperil the vigor of a military people or taint the purity of an aristocratic race. A heavy fine was imposed on King Archidamus because he had taken to wife a woman of short stature, and thus risked giving to Sparta 'kinglings in place of kings.' The authority for this is

Plutarch in his treatise on the education of children. The same author, in his life of Lycurgus (North's translation), says that, 'Beginning afar off, he first considered the state of marriage and the generation of children. . . . First of all, he willed that the maidens should harden their bodies with exercise of running, wrestling, throwing the bar, and casting the dart, to the end that the fruit wherewith they might be afterwards conceived, taking nourishment of a strong and lusty body, should shoot out and spread the better; and that they, by gathering strength thus by exercises, should more easily away with the pains of child-bearing.' The child was inspected after birth by the elders among his kindred, and, if they found him 'deformed, misshapen, or lean, or pale, they sent him to be thrown in a deep pit of water which they commonly called Apothetas, and, as a man would say, the common house of office; holding opinion it was neither good for the child nor yet for the common weal that it should live, considering from his birth he was not well made nor given to be strong, healthful, nor lusty of body all his life long.'

"Plato, in his 'Laws,' says 'the state alone should regulate marriages, not according to the will of the parties, but solely in view of the general good of the nation.' He held that it was the duty of the magistrates to choose the bravest men and the most beautiful women so as to obtain specially good offspring. Aristotle wrote to the same effect.

"Although not exactly agreed as to the proper age for marriage, all the Greek authors condemn unions between parties either too young or too old. Too early marriage was considered very injurious for the species as well as the individual. Aristotle says the children of such unions are weekly, small, and bodily incomplete. On the other hand, he says that men advanced in years produce only beings incomplete in body and mind, while the offspring of very old men are weakly. At Athens, although the free consent of the contracting parties was necessary, a minute examination of the bodies of both was made before the union was sanctioned. Physical exercises were enjoined on women, especially in Sparta. At Teos there was coeducation, the girls mingling with the boys, not only in lessons, but in exercises. In other places they competed with the young men in the palæstra. It would appear that women ceased to devote themselves to gymnastics, at least in public, when they were married."

Midwives seem to have played a great part in arranging suitable marriages.

"Athenæus of Tarsus, a celebrated physician, insisted on a careful preparation of mind as well as body in those who wished to beget offspring. The mind must be calm, free from anxiety or weariness. The body required exercise—sufficient, but not tiring—and good, nourishing food, easy of digestion. Overindulgence was condemned, and it was enjoined that women should be allowed an interval between conceptions sufficient to enable them to keep their health, so that they might bring forth vigorous offspring. This was also insisted on by Soranus of Ephesus, the greatest gynecologist of antiquity."

CHILD HYGIENE IN NEW YORK.

Mothers as Well as Infants Are to Be Given Care by the City Health Department.

Another link has been added to the chain of effort in the reduction of infant mortality in New York by extending the activities of the milk stations to include the care of pregnant women. Thirty-six percent of infant mortality occurs in the first month, the authorities have ascertained, and the majority of these children die either because the mothers were physically unfit to bear healthy children or because of their ignorance of the proper care of their offspring during the first weeks of life. The milk station at 2287 First avenue, Manhattan, has been selected as a center for the instruction of nurses in prenatal work. When sufficiently familiar with its details, they are to be assigned to other stations to carry it on. The nurses assigned to this work canvass the neighborhood and persuade expectant mothers to place themselves under medical care as early in pregnancy as possible; they communicate with the doctor of the hospital under whose care the patient may be, and explain the desire of the department of health to cooperate and the manner and degree in which it is prepared to do so; they instruct mothers in detail with regard to diet, fresh air, food, exercise, clothing, etc., and impress on them the importance of nursing their infants.

In normal cases visits are made every ten days antepartum and every three days post-partum; in abnormal cases, as often as may be necessary. Visits are made for one month after labor. The mothers are then requested to enroll their children at the milk station, where they are cared for during their first and second years.

The health department states that to date 175 mothers have been enrolled, of whom 25 have given birth to children. While it is too early to show by figures what can be accomplished, it is most gratifying to note the appreciation of the mothers and the enthusiasm of the nurses.

ONE MAN'S IDEA OF CHARITY.

Destitute Mothers and Their Children Cared For—The Latter Educated Under Inspiring Conditions.

The Sand Springs Home, near Tulsa, Okla., is to extend its work among destitute mothers by the addition of several new buildings, which will be erected this coming spring. This is a most worthy philanthropy, founded by Charles Page, a wealthy oil operator. The Sand Springs Home has had a school in connection with it since its foundation about five years ago. Here all of the children in the home old enough to attend school are being educated by expert teachers, and the children of the destitute mothers will be educated there. For those too young to attend school a kindergarten is being established at the home. For the mothers the home will find employment in some of the numerous factories at Sand Springs, where work in the packing departments is chiefly done by women.

The Sand Springs Home now contains something like 100 children, and, besides numerous matrons who watch over the little ones, the home recently employed an athletic director to have supervision over them on the playground.

Two years ago the Sand Springs Home erected one of the largest greenhouses in the southwest for the purpose of supplying the home and its grounds with flowers and plants and shrubberies. It is now building greenhouses covering more than half an acre, which will be devoted to growing vegetables for winter use at the home, marketing the surplus in the city of Tulsa.

Modern Care of the Criminal.

More and more, in these enlightened times, are the courts calling physicians to their aid in the administration of justice. The present week, for instance, a boy charged with a series of thefts was before a judge in Pottstown, Pa., who ordered a careful medical examination of the defendant. Doctors found that the stealing habit was the result of a blow on the head with a club, received by the lad twelve years ago at the age of 6, and he was sent forthwith to a hospital to be reformed through a surgical operation for the relief of pressure of the skull on the brain. If this juvenile offender had lived in the old days, he might have been hustled off to a jail for punishment to satisfy outraged society.—Boston Globe.

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ARCHITECTURAL AND BUILDING NOTES

The Moline Public Hospital, of Moline, Ill., is to have a new $30,000 nurses' home, four stories high, 62 by 30 feet. It is a fireproof structure, with concrete foundations, hollow tile and brick walls, and reinforced concrete floors and roof. The interior will be plaster blocks and tile. There will be tile, cement and linoleum floors.

The Herman Kiefer Hospital for Contagious Diseases, of Detroit, is building two wards to contain 80 beds, a nurses' home, and a new power house, at a cost of $410,000. The construction is brick and concrete, with gypsite partitions, hardwall plastering, enamel paint, and steel roofing. Mr. Louis Kamper, of Detroit, the architect, expects that the work will be completed the coming spring.

Malden Hospital, at Malden, Mass., will build a new maternity building during the coming year. Miss Perry, superintendent, believes that the hospital should have larger and better equipped maternity facilities for the rapidly growing service that the hospital has worked up. Miss Perry and her board are having an enjoyable time making the preliminary plans for their new building.

Miss M. E. Martyn, superintendent, has already raised $150,000 for the new Washington Heights Hospital at One Hundred and Thirty-eighth street and Broadway, New York. The hospital is intended to be conducted under the auspices of the Washington Heights M. E. Church. Dr. Jacob E. Price and Mr. Henry Wolff were the campaign commissioners in a recent very aggressive campaign to raise the money.

Dr. Charles E. Donlan, superintendent of the Long Island Hospital at Boston Harbor, is making plans for a new kitchen and service building that is intended to be a model of its kind. He is also planning to reconstruct one of the older buildings into a modern hospital for the care of patients. The architects, Wells & Dana, Boston, are also making plans for a new nurses' home for the hospital. The Long Island Hospital's growing popularity has made the present accommodations entirely inadequate.

Very extensive improvements are contemplated at the Newberry State Hospital for the Insane, Newberry, Mich., in the near future. A new fireproof cottage for women is now in course of construction, and next spring there are to be built a tubercular ward, a residence for physicians, a new power house, and an independent bakery building, and there are to be extensive additions to the present men's hospital. All the buildings, except the doctors' residence, will be steel, reinforced concrete, and terra-cotta tile.

A very handsome private hospital is being built by Mr. Bruce P. Kitchell, architect, for Dr. Hugh F. Cook, of Newark, N. J. The building, costing about $50,000 with-

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(Sensitized Bacterial Vaccines)

"Action **sure, rapid, harmless, and durable.**"—A. Besredka.

Serobacterins are suspensions of bacteria "sensitized" by treatment with specific immune serum.

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Scarlatina Strepto-Serobacterin. (Sensitized Streptococcic Vaccine Scarlatinal.)

Typho-Serobacterin. (Sensitized Typhoid Vaccine.)

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Single syringes 1.50
Each syringe one dose.

For a complete review of the literature on Serobacterins, see Mulford Digest for December.

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out equipment, will be 85 by 42 feet in size, and is to house 56 patients. Miss Smoker, who has already been appointed superintendent of the new hospital, has already approved the internal equipment, including an automatic elevator, electric dumb waiter, a complete indirect system of lighting for all patients' quarters, and an intercommunicating system of telephones. The building is of brick and tile, with cement, concrete plaster, tile partitions, and inlaid slate on concrete roofing. Dr. Cook intends to conduct the hospital for his general practice. Dr. Edward M. Richman will be chief of staff.

The Bushwick Hospital, 4 Howard avenue, Brooklyn, is to recommence building a $90,000 general hospital and dispensary. The building operations on this institution were started in June, 1912, but the work was stopped last spring owing to lack of funds. The financial arrangements are all completed now, and it is expected that the hospital will be opened about March 5, 1914. The main building is to be 50 by 90 feet, six stories high, and will contain 75 beds. It is to be fireproof throughout, with cement and cement plastering over terra-cotta tile. Dr. Frank E. Wilson, chief of the medical staff, is satisfied that the hospital is to be in every way modern, so that it will lend itself to the best possible care of patients. Messrs. Harde and Short, of New York, are the architects.

The Children's Consumptive Hospital at Mattapan, Boston, is now completed. It is built of terra-cotta, two stories high, and cost $50,000. Dr. Simon F. Cox, superintendent, has made very elaborate plans for an extension of the work with tuberculous children. It is intended to make every effort to get the child into the hospital as soon as a diagnosis can be made, and to keep him there until he has so far recovered from any active process that he can go home again in safety. The hospital's work is not to stop when the child leaves the institution, but is to be followed up by a visiting nurse service, and each child is to be as carefully watched in its home as it was during residence in the institution. Dr. Cox and his board feel that only in this way can the institution be of permanent service.

A new tuberculosis sanatorium for Onondaga County is to be built near Syracuse, N. Y. It is intended to spend about $130,000. The administration building is to be 206 feet by 130 feet, and each of the two ward buildings 131 by 61 feet. The building is to form the letter H, with the connection toward the lower end, and in this hollow square will be the administration entrance. When it is completed, the sanatorium will house both incipient and advanced cases, the present building being arranged for 40 incipient and 52 advanced tuberculosis patients. It is intended that the sanatorium shall be one of the most complete of its kind, with an up-to-date hydrotherapeutic establishment, an x-ray department, a very complete laboratory of pathology, and a modern dietetic service. The building itself is intended to be fireproof, of stuccoed hollow tile, slate and tile roof, and chestnut woodwork. The whole matter of the plan is in the hands of the architects, Messrs. Taylor and Bonte, of Syracuse.

Lloyd-George is a canny Welshman. Not long ago a deputation waited on him to declare that his panel laws and his workmen's insurance would close the hospitals. "Show me one hospital, in all history, that has closed its doors after they were once opened," was his answer, and the deputation left him in silence.

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Tetanus Antitoxin (Slee's refined and concentrated globulin solution)
1500 units in syringe-container.....$2.50
3000 units in syringe-container..... 4.25
5000 units in syringe-container..... 6.00

Antistreptococcic Serum (Slee's)
10 Cc. in syringe-container.....$1.50
10 Cc. in vial..... 1.25
20 Cc. in vial..... 2.25

Antimeningitis Serum (Slee's)
In packages of two syringes of 15 Cc. each, with special needle and stylet, per package.$5.00

Smallpox Vaccine (Slee's)
Glycerinated tubes, per box of 5 tubes.....$0.75
Glycerinated tubes, per box of 10 tubes..... 1.50

Acne Bacterin (Polyvalent)
For prices, see next below.

Staphylo-Acne-Bacterin (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Coli-Bacterin (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Gonococcus-Bacterin (Polyvalent)

Gonococcus-Combined Bacterin (Polyvalent)
Per dozen boxes of six ampules each (either bacterin) $15.00
In less than half-dozen lots, per box..... 1.50

Antistreptococcus Vaccine (Polyvalent) (Scarlatina-Prophylactic)
Per dozen boxes of three ampules each.....$ 7.50
In less than half-dozen lots, per box..... .75

Strepto-Bacterin (Polyvalent) (Scarlatina-Bacterin)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Friedlander-Bacterin (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Combined-Bacterin Van Cott (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Pneumo-Bacterin (Polyvalent)

Pneumo-Combined-Bacterin (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
In less than half-dozen lots, per box..... 1.50

Typho-Bacterin (Polyvalent)
Per dozen boxes of six ampules each.....$15.00
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Per dozen boxes of three ampules each.....$ 7.50
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Special prices for quantity orders.

Staphylo-Albus-Bacterin (Polyvalent)

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Staphylo-Bacterin-Mixed (Polyvalent)
Price of any one, per dozen boxes of six ampules each $15.00
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Strepto-Bacterin (Polyvalent)
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Prepared for special cases, in which the stock bacterins are not specially indicated. Prices vary from $5.00 to $10.00, depending upon the character of the specimen.

NOTE: The above Bacterins are also supplied in syringe-containers, each dose being graded and properly adjusted as to bacterial content for greatest efficiency.
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NEWS *of the* HOSPITALS *and* SANATORIUMS

The King Edward Hospital fund of England has received a bequest of $1,325,000 under the will of the late Sir Julius Wernher, the wealthy Africa diamond merchant. Another million is to be added later.

Harper Hospital, of Detroit, and the partly completed Detroit General Hospital are to merge. The two boards of trustees have held a number of meetings and have agreed to form a single board. The new hospital is to be called the Harper General Hospital.

The Jewish Hospital of Philadelphia is to have a new medical building, to cost $65,000. It will be three stories in height, and will be built of brick and stone. A legacy for its erection was left by a warm friend of the Jewish Hospital. The building is expected to be ready for occupancy in one year's time.

California has recently purchased a site consisting of 316 acres for the new State Hospital for the Insane near Norwalk, Los Angeles county, $90,000 being the purchase price of the ground. The last Legislature authorized the purchase of the land and made an appropriation of $500,000 for the first buildings.

Mr. John Wells, superintendent of the Latter Day Saints' Hospital at Salt Lake City, Utah, has resigned. Mr. Wells had been long at the Latter Day Saints' Hospital, and had brought it up to the measure of first-class hospitals in the west. He has always been regarded as one of the most capable hospital administrators in this country.

Dr. Cleveland H. Shutt, hospital commissioner of St. Louis, has been appointed by President Howell to prepare the report on "hospital efficiency" for the St. Paul convention of the American Hospital Association. Dr. Shutt should make an epochal report, since he has had occasion to study hospital conditions very thoroughly during the past two years. Perhaps he will explain how it is that St. Louis can conduct a municipal hospital at a per-capita cost of less than $1 per diem.

Recently a wealthy Englishman, Mr. Mallaby-Deeley, purchased the Duke of Bedford's Covent Garden estate in the heart of London for approximately $50,000,000. Included in the purchase was St. George's Hospital, which the new owner intended to pull down and erect a $5,000,000 hotel on the site. Now the hospital directors find that they cannot consent to the plan, and it is said that Mr. Mallaby-Deeley stands to lose a large amount of money because other large transactions hinged on the St. George deal.

St. Elizabeth Hospital, Dayton, Ohio.
Architect, J. E. Kinninger.
Best Bros. Keene's Cement used in same.

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—let your antiseptic washes be ever so frequent; your inner walls remain *intact*—sustain no bad effects if they are plastered with

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"The Plaster That Stands Hard Knocks"

Superior durability, combined with sanitary features, makes Best Bros. Keene's Cement the ideal plaster for the modern hospital.

When enameled it stands up perfectly under sterilization—is pure white—cleans easily—grows harder and tougher with age.

Can be enameled without use of filler or base. Won't chip, crack, peel. And the one cement that high grade contractors will guarantee for finish work over concrete.

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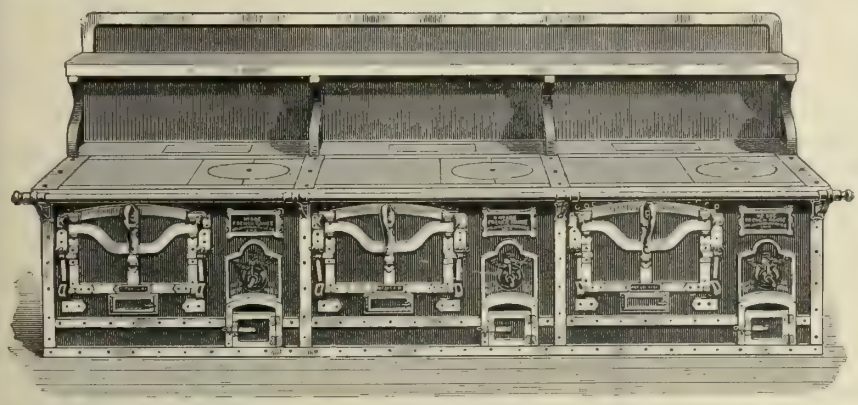

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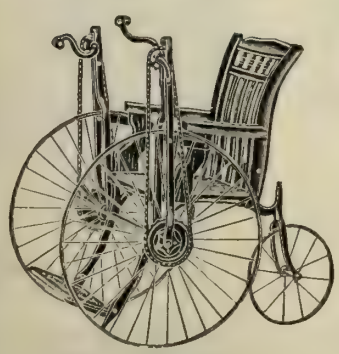

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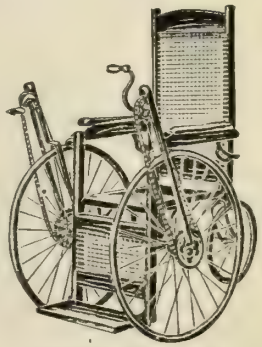


Reclining Chair, No. 9

Some of the cities of Massachusetts—notably Lowell, Gloucester, and Brockton—are to test in the courts the legality of the law passed in the last legislature to compel all cities in the commonwealth to build and maintain tuberculosis hospitals. There has been much feeling in the state over this problem, the cities claiming that they, and not the State Board of Health, are better qualified to judge what is best for their own people, and, if the state wants these hospitals, let it build them.

Moving picture shows are part of the weekly entertainment at the Provo (Utah) State Hospital for the Insane. The patients enjoy the pictures very much. They dance, have a lunch, and have an all-round good time. Being only insane, they are said to care very little for the tango and dances of like character, and find their greatest pleasure in quadrilles, cotillions, and other sane and dignified steps. The Provo patients have almost supported themselves out of their farm produce and trade work the past year. They make their own clothes and shoes, build the new buildings, and do all the trade work required.

Fresno, Cal., is to build an emergency and isolation hospital on ground already owned by the city, in connection with the present County Hospital. Plans and specifications have been ordered, and it is expected that there will be no delay in letting contracts for the work. The isolation part of the new hospital is to provide for only 16 beds at first, with 12 by 12-foot screened porches off each unit. The whole building will be 46 by 40 feet. Mayor Snow is taking personal direction of the work, which is to be done under the immediate direction of City Engineer Cronkite. A smallpox scare in the city has hurried matters connected with the new hospital.

The twenty-fifth anniversary of the foundation of Grace Hospital, Detroit, was celebrated on the evening of January 1 in the Helen Newberry Nurses' Home of the institution. The celebration took the form of a reception by invitation, the hosts of the occasion being the members of the board of directors, lady managers, and members of the medical staff. Groups of the visitors were escorted to various places of interest in the hospital, refreshments were served, felicitous speeches were made, and everybody had a thoroughly good time. Grace is a hospital of which the people of Detroit are very proud.

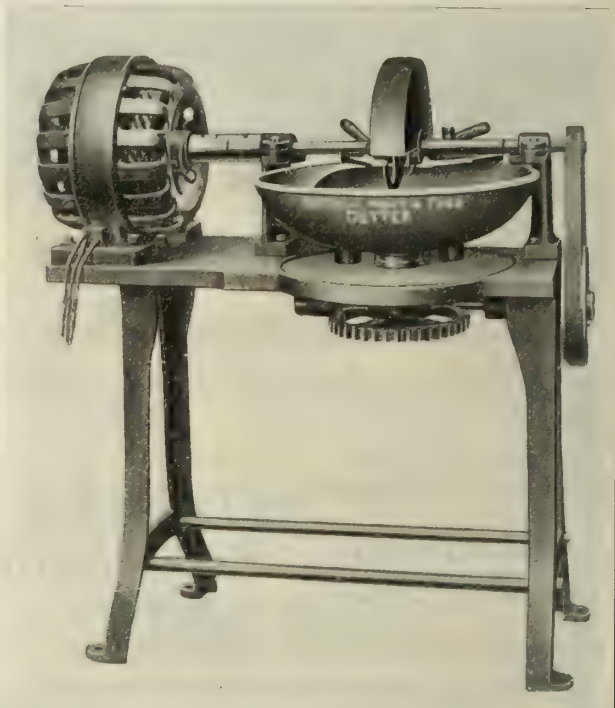
A new home for convalescents is to be established in Manhattan under a bequest of $1,000,000 left by Mrs. Caroline Neustadter, who died a year ago. $250,000 is to be expended for the building and $750,000 is to be used for its support. One provision in the will is that the hospital shall be in or convenient to New York City. The charitable ideas of Mrs. Neustadter are to be carried out by trustees of her estate, and the funds at their disposal are to be known as the "Neustadter Foundation." The Board of Charities also heard applications for two free dispensaries for the Borough of the Bronx and in East New York, Brooklyn. The architect has not been selected.

Firland, Seattle's new tuberculosis hospital, located overlooking Puget Sound, twelve miles north of the city, is almost completed, to accommodate 320 patients. Three buildings are now under construction, to cost $250,000.

BETTER FOOD

Food more appetizing and more easily digested, also more economical, is obtained through the use of our

Meat and Vegetable Chopper



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A PROFITABLE INVESTMENT for Hospitals of 50 or more beds. Saves from 200 percent to 600 percent in time and in cost of labor.

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Names of a few of the many institutions using this wonderful chopper:

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St. Joseph's Hospital,	New York, N. Y.
St. Mary's Hospital,	Orange, N. J.
Rochester General Hospital	Rochester, N. Y.
Sisters' Hospital,	Buffalo, N. Y.
Montreal General Hospital,	Montreal, Que.
Johns Hopkins Hospital,	Baltimore, Md.
Sheppard & Enoch Pratt Hospital,	Towson, Md.
Peter Bent Brigham Hospital,	Boston, Mass.
Rochester State Hospital,	Rochester, Minn.
Mercy Hospital,	Chicago, Ill.
Sawyer's Sanitarium,	Marion, Ohio
General Hospital,	San Francisco, Cal.
City Hospital,	St. Louis, Mo.
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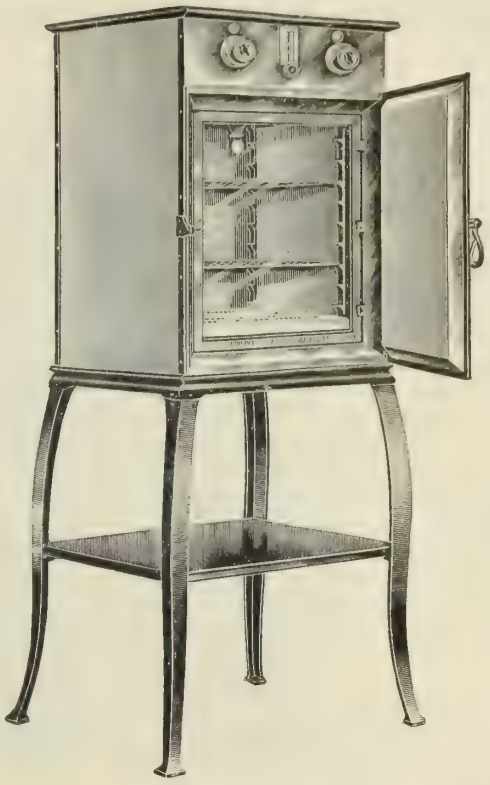

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HAMBURG (Germany)

At the present time the administration building and the large hospital building, with a power house, are all that will be built. The hospital is a building 250 feet long, where will be treated advanced cases. The administration building, even a more sightly structure, is 200 feet long. It contains quarters for nurses, physicians, and others of the institution staff, kitchens, and office rooms. The plans of the Mattapan Tuberculosis Hospital at Boston are being followed in the construction of the patients' buildings.

The new Herman Knapp Eye and Ear Hospital at Fifty-seventh street and Tenth avenue, New York, was formally opened on the evening of December 6. The hospital takes the place of the first building founded by Dr. Herman Knapp in 1869. It is in the closely populated tenement district of the city and near the College of Physicians and Surgeons, with which it is affiliated. The building is seven stories high, and is fireproof. The first and second floors are to be occupied by the dispensary and social service department; the third, fourth, fifth, and sixth floors are to be occupied by the hospital patients proper, and the seventh floor will be devoted to the operating suites and quarters for some of the employees. Messrs. Crow, Lewis & Wickenhoefer were the architects.

The State Board of Public Charities of Pennsylvania is seriously considering the desirability of founding a hospital and home for the state's incurables—cancer and other hopeless disorders. The preliminary report of the board states the proposition thus:

"There are private homes for incurables in Philadelphia and Pittsburgh, but their capacity is very limited and both have long waiting lists, so that it is impossible to have patients admitted without waiting an unreasonable time. The patients for whom this provision is needed are usually indigent persons, or persons who can pay a moderate sum and whose families do not want to send them to an almshouse. The county almshouses are not well equipped for caring for this class, who cannot receive the proper treatment on account of the lack of nurses and because of the expense their care entails."

Jefferson Hospital, Philadelphia, has recently extended its charity field by the opening of a new building for the treatment of diseases of the chest. The hospital bought the group of buildings formerly occupied by the Phipps Institute, located at 236 and 238 Pine street, and has made alterations costing $20,000 that have transformed the old institute into a thoroughly modern hospital. A large dispensary for chest cases is a part of the new hospital, and there are laboratory spaces for clinical and research work and for intricate examinations and consultations. Social service is to be a most important feature of the work to be done on these cases; home conditions are to be studied, and elaborate arrangements are in the making for the regulation of the lives of out-patients. The students of the school, younger members of the profession, and nurses are to be thoroughly drilled in the work of prevention, which is to be one of the prominent factors in the new hospital.

The Methodists of southern California are to have a hospital of their own in Los Angeles. Architects Garrett & Farrell are now engaged in issuing plans and specifications to various bidders, and it is believed that the beginning of actual work on the hospital building will not long be delayed. For the present only the central portion of the hospital, a building 140 by 72 feet in dimensions, will be erected. Eventually the plant is to have a total

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Description—The patient can call a nurse with the extension push located near his bed. The pressing of the button will energize a locking relay, which will close a circuit, light the light over the door, a light at the nurse's station, and several pilot lights located where deemed necessary. The pressing of the reset button either at the patient's bedside or at the entrance to the ward will extinguish the lights.

Description of Apparatus—At the patient's bed is a switchplate with a reset-button and a bushing, with a silk cord and an extension push-button. The light over the door consists of a switchplate, lamp-socket, and lamp. The lamp annunciator at the nurse's station consists of a metal or wood case, lamps, and opals, properly marked. Pilot lamps are similar to the lights over the door, but are of a different color. Relay cabinets and terminal boxes are placed at some central point on each floor. These boxes are to be equipped with sufficient relays and terminals to take care of all the switching for the lights of that entire section.

Wiring—For each patient's room three wires run direct to the relay box; two of these wires are to set and release the relays; the third is to light the light over the door. There is also one positive common wire to all lamps and push-buttons, making a total of four wires.

Battery—We recommend a storage battery of about twenty volts to operate this system.

Any electrician can install this system. Send us the name of your electrician, and we will arrange to have him show it to you.

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frontage of 250 feet by a depth of more than 200 feet, but this will be after the two wings have been added. Plans are out for the entire building, which, like the portion to be constructed now, will have a uniform height of five stories. The completed hospital will represent an outlay of $250,000, and will accommodate 250 patients. The hospital will be of reinforced concrete construction and absolutely fireproof. It will be thoroughly modern in arrangement and appointment, and will have an equipment as complete as that of any similar institution in the west.

The recently opened new building of the Cambridge (Mass.) Hospital is far larger than the old structures, and there are besides a new power plant and ice-making plant, which refrigerates the ice boxes in the new building. Mr. Charles N. Cogswell, after many conferences with the trustees, medical staff members, and heads of the various departments of the hospital, has produced a most admirably arranged building, according to the actual hospital workers who have seen it. There are wards, private rooms, dining room for nurses and administrative officers, a new model kitchen in the basement, pathological rooms, an admission suite, with accident operating rooms, and special arrangements for the dietician's work. There are also dormitories on the cubicle pattern for some of the help.

England's Shortage of Nurses.

This failure of the supply of candidates as hospital probationers is a serious condition to which we have frequently drawn attention. It was brought to the notice of the prime minister by Miss Cox Davies when the deputation from the central committee for the State Registration of Trained Nurses waited on him in April last, and the president of the local government board was questioned in the House of Commons concerning it, when he pledged himself to the statement that the deficiency was only temporary, due to such causes as the national insurance act.

We were aware at the time that this did not represent the facts, and that the shortage would continue unless the nursing profession were put on a defined basis under a legally constituted state authority, and events have proved that it is even becoming more acute throughout the hospital world.

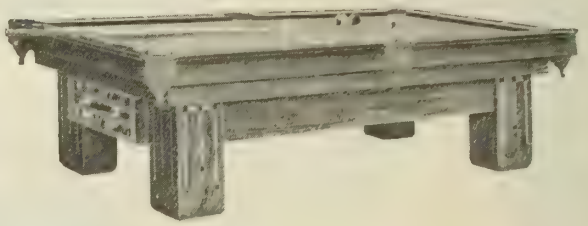
When there is not a sufficient supply of workers in any branch of labor, there is something wrong in the conditions of their employment.

There are several causes militating against the adoption of nursing as a profession by girls in sufficient numbers. There are many openings at the present day more attractive to those who desire to become self-supporting.

The salaries, especially having regard to the responsible and dangerous nature of the work, are insufficient, especially taking into consideration the rising cost of living, although those offered by the Metropolitan Asylums Board, as well as the accommodation provided, compare most favorably with many others.

The nursing profession is in a state of evolution, and its organization as a whole under state authority is eventually inevitable.—British Journal of Nursing.

Alexandra, the queen mother, formally opened on November 22 the new Mary Curzon Hospital for women at King's Cross, London. The institution is a memorial to the late Lady Curzon, the wife of the viceroy of India and a daughter of the late Levi Z. Leiter, the Chicago millionaire.



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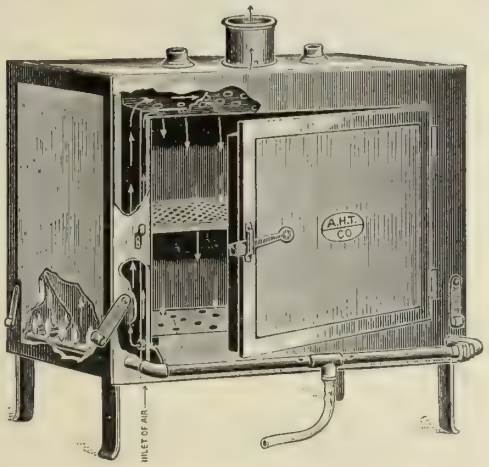

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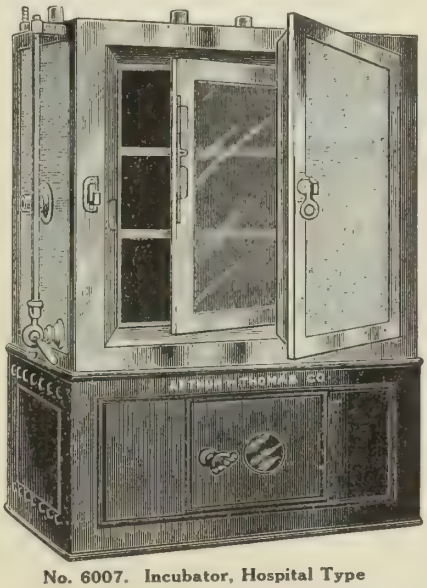

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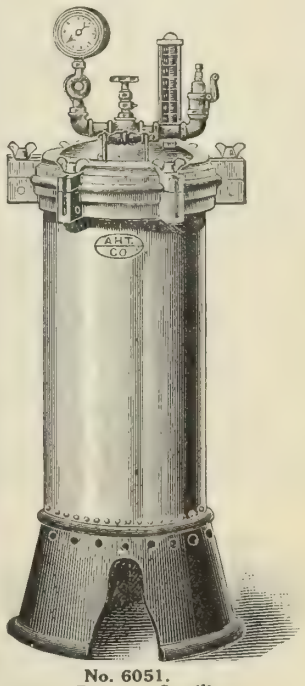

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When requested, replies will be received at the business office of THE MODERN HOSPITAL, Metropolitan Building, St. Louis, and will be forwarded promptly to the advertiser.

The charge is $1.00 for 30 words or less, and 3 cents for each additional word. For the convenience of both advertisers and publishers, classified advertisements are payable in advance.

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POSITION—Executive in 200-bed hospital wishes to make change. Ten years' experience. First-class references. Graduate nurse. Would take superintendency or position as treasurer, with care of books and collections. Address Executive, THE MODERN HOSPITAL.

POSITION—As superintendent or superintendent of nurses of a hospital of 100 beds or less. Graduate of a large training school; postgraduate of hospital economics. Experienced. Good teacher and disciplinarian. South or West preferred. Address H., THE MODERN HOSPITAL.

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POSITION—By graduate registered nurse, position as principal of nurse training school, with twelve years' experience in teaching and management. Wishes to make change for excellent reasons by February 1, 1914. Address J. W., THE MODERN HOSPITAL, 42 West 39th street, New York, N. Y.

POSITION—As matron or housekeeper in hospital. Have had experience in large Government institutions for past six years. Western states preferred. Address E. M., THE MODERN HOSPITAL.

POSITION—Hospital superintendent, experienced man, who is now the head of a fine institution, wishes, for excellent reasons, to make a change. Specially qualified to build up and manage the physical departments. Address Chicago office of THE MODERN HOSPITAL, Tower Building, Chicago.

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NURSE—A capable woman for head nurse in a general hospital of 60 beds. References required. Address Dixie, THE MODERN HOSPITAL.

NURSES—Graduate nurses desiring institutional positions. We have calls for nurses from all parts of this country. If interested in hospital positions, write us today. Aznoe's Central Registry for Nurses, 3544 Grand Boulevard, Chicago.

NURSES—The New York Red Cross Hospital Training School for Nurses has a few vacancies for refined, educated young women wishing to become nurses. Apply to Superintendent of Nurses, 395 Central Park West, New York, N. Y.

SUPERINTENDENT—A large general hospital, over 500 beds, wishes to engage competent superintendent of training school. Standards are high, and only experienced principals will be considered. Give experience. Address C. H., THE MODERN HOSPITAL.

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"THE INNER WALL"—A booklet which describes a number of hospitals and other buildings in which our sanitary plaster was used because of its superior value. Address Department O., Best Bros. Keene's Cement Company, Medicine Lodge, Kansas.

Classified advertising continued on page 40.

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. II *February, 1914* No. 2

PLANS AND PURPOSES OF "SEA VIEW" TUBERCULOSIS HOSPITAL.

Patterned After No Architectural "School," It Is a Modern American Hospital, Designed to Care for Patients in All Stages of Disease—Has 1,014 Beds and 600 More May Be Added.

By RAYMOND F. ALMIRALL, Architect.

THIS hospital is designed to provide a general hospital for the indigent of New York City suffering from tuberculosis, complicated with other disease process or condition, but now is being used for early and late pulmonary tuberculosis. It is intended to supply the necessary equipment for general and special medical and surgical care and treatment, to provide for residence through convalescence, and to offer every facility for scientific study and research. The hospital is owned by the city and administered through the Department of Public Charities.

The Sea View Hospital was proposed by Mr. James H. Tully, commissioner of charities during 1902-1905. Under his direction preliminary drawings were made and approved. His successor, Mr. R. W. Hebberd, commissioner during 1906-1909, began and vigorously prosecuted the construction. The working drawings, and the specifications of all of the work which has been completed to date, were approved and furthered by him. Mr. M. J. Drummond, commissioner during 1909-1913, secured appropriations necessary for the progress of the work.

The property is located on Todt Hill, Manor Road, Staten Island, Borough of Richmond, New York. It contains twenty-five acres, which is about half the area essential to the ultimate protection and isolation of the hospital. It was acquired several years ago, during the incumbency of Mr. Homer Folks as commissioner of charities, in connection with the development of habitations for the city's poor.

The land slopes off to all sides except the north, making a good natural drainage. The prevailing southerly and favorable winds blow from over the New Jersey pinelands, the wooded hillsides to the north shield the hospital from the most disagreeable storms, and extended sea and landscapes present an unusual visual interest.

Much credit is due, I think, to the farsightedness of those who took advantage of this favorable site and caused its purchase. Courage in carrying through this enterprise gave unquestionable impetus to the now accepted idea of locating institutions where the environment will be of special advantage to their future inmates. To Commissioner Hebberd, more than to any other, is due the credit for the erection of Sea View Hospital. At the time this site was purchased, and the work of construction begun, little intelligent thought was given to the expectations of actual permanency in hospital convenience, location, and building.

Staten Island is reached from a municipal ferry at the Battery, the southerly end of the Borough of Manhattan. From the Staten Island terminal at St. George a trolley runs to Castleton-Four-Corners, from which place the hospital is about a mile distant. The fares one way aggregate 10 cents. With the proposed extension of rapid transit and the contemplated arrangement of transfers between the municipal ferry and the subways, the entrance to the hospital grounds will then be reached from any of the boroughs for a fare of 10 cents and within a hour's time.

The hospital, when completed, will contain 1,014 beds and will consist of twenty-two buildings, viz.: the administration building, the storage and dining hall building, the congregate chapel and the

therapeutic pavilion, located on the minor axis (north to south), the eight ward buildings radiating from the elliptical curve; the nurses' home, the surgical pavilion, the administration building, the staff house, the pathological building, the power house and laundry building, and the ambulance house, located on the major axis (east to west); the two dormitory buildings for men and the congregate chapel, pathological building, therapeutic pavilion, the two help buildings, and the residence for the medical superintendent, the designs of which have long been prepared.

The general plan takes advantage of the natural grades, utilizing them to assist in making use to the fullest extent of the excellent exposure offered by the site. Sunlight is obtained in every

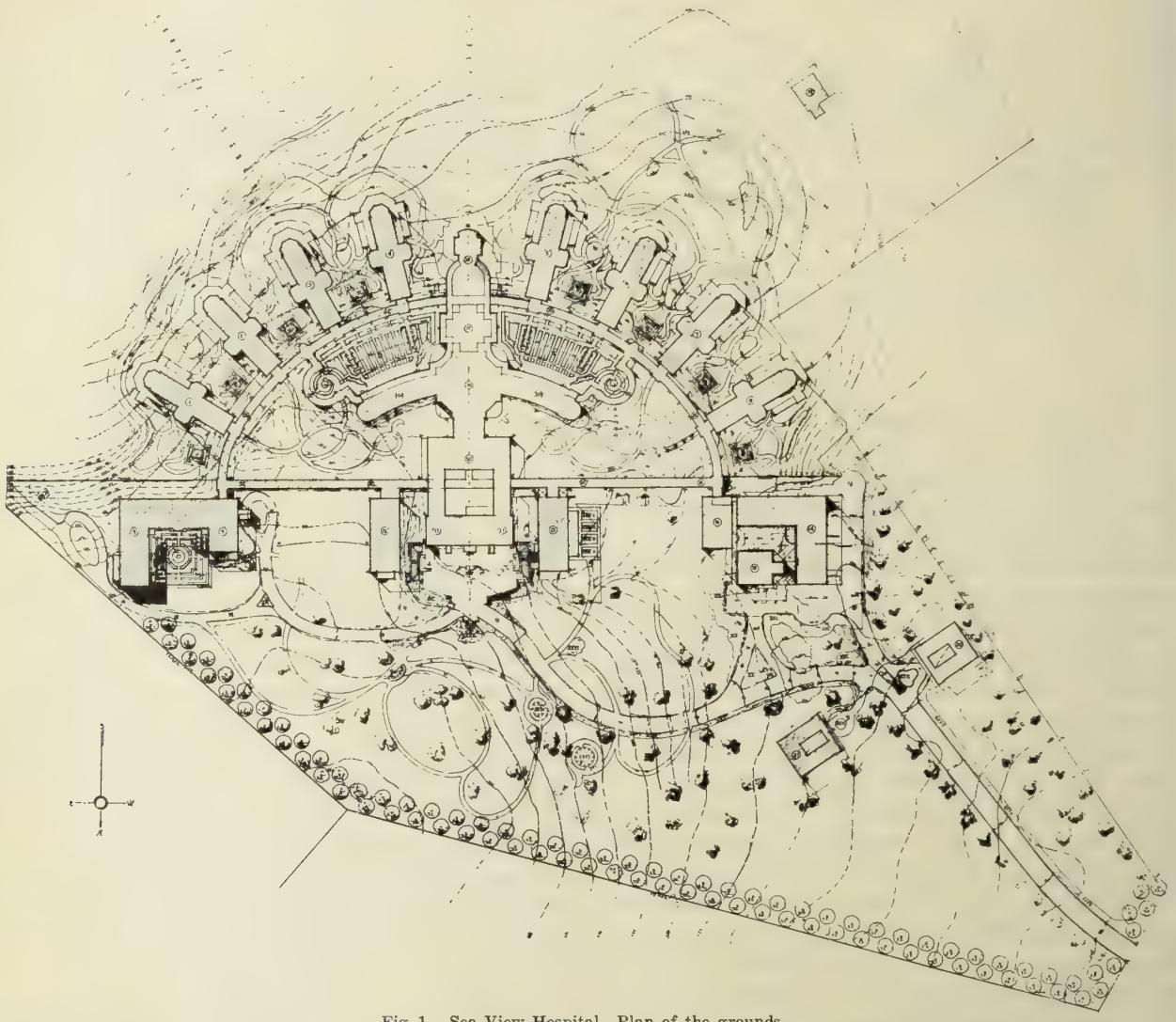


Fig. 1. Sea View Hospital—Plan of the grounds.

1, general ward pavilion, No. 1, for women.
2, private room pavilion, No. 2, for women.
3, general ward pavilion, No. 3, for women.
4, general ward pavilion, No. 4, for women.
5, general ward pavilion, No. 5, for men.
6, general ward pavilion, No. 6, for men.
7, private room pavilion, No. 7, for men.
8, general ward pavilion, No. 8, for men.
9, nurses' home.
10, dining hall and kitchen building.
10, dining hall for women.
10, dining hall for men.
11, administration building.
12, surgical pavilion.
13, staff house.
14, laundry building and power house.
15, ambulance house.
16, pathological building.
17, chapel.
18, pavilion for physical therapeutics.
20, dormitory for men help.
21, dormitory for women help.
22, covered corridor.

women help, located to the north of the power house and on either side of the entrance roadway; and the residence of the medical superintendent, for which no proper site now exists.

In the planning of the hospital its extension has been anticipated. Estimates make it appear safe to say that 600 beds could readily be added for a sum of $750,000.

No appropriations have been made to construct part of each building. The layout better explains the positions of the various buildings and their relations to each other than can any description.

Those buildings on the minor axis (north and south), which axis divides the men's and women's ward buildings, furnish services common to both sexes; their positions increase efficiency of service and convenience of access. All the buildings, except the two buildings for help and the resi-

Fig. 2. Sea View Hospital—Panoramic view, showing court, corridors, and service buildings.

dence for the medical superintendent, connect with the inclosed corridor, from which they may be directly entered. From the south side of the power house and laundry building, and beneath the covered corridor connecting this group with the administration building, a road extends for the delivery of supplies to the service building from the courtyard between it and the administration building, where the road terminates. Below the elliptical corridor extend two separate tunnels of full horizontal width. In the upper one there will operate the food conveyor, in the lower tunnel are laid the tracks for a flat electrically propelled car for general service on one side, and on the other are arranged vertically the main supplies of water, heat, electricity, and refrigeration. The tunnel for the food conveyor connects by elevators with the ward service pantry of the central kitchen and by lifts with each ward diet kitchen. The lower tunnel connects directly with all buildings with which the inclosed corridor connects, except the staff house, administration building, and surgical pavilion. The equipments and service provided offer every known means for the care and comfort of patients, and render inexcusable the least uncleanliness.

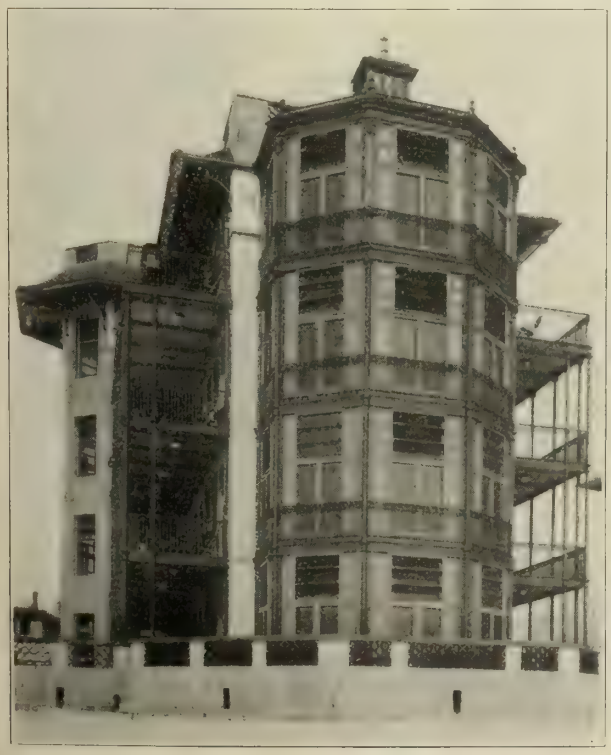


Fig. 3. Sea View Hospital—A patients' pavilion, showing porches and sun rooms.

The architecture is modern and of no historical or geographical style. A consistent effort has been made to express hospital purpose by simplicity, and by light, air, abundant veranda space and cheerfulness. The buildings are of a light-gray color, with horizontal bands and friezes of brilliantly colored faience. The roofs are of red Spanish tile. All buildings are fireproof. Such design may be thought to better emphasize the hospital idea than the apartment house or semi-monumental adaptations that greet us so frequently in this country. I regret to say that such seem most popular with donors, boards, and committees having to do with hospital buildings. To furnish plain wall surfaces and eliminate costly and dirt-harboring rusticated brickwork, projecting stone bands and cornices, which supply the dust to be blown into conveniently located windows; to provide a sufficiency of veranda space on each floor to accommodate every bed of each ward, and to eliminate the oppressive and dismal appearance of the building and its approaches, is perhaps novel, though of great practical advantage. The landscape work constituting the approaches has been considered an important phy-

Fig. 4. Sea View Hospital—Interior of a roof ward.

sical environment of the buildings and gardens. Plantings of shrubs and trees and the pergolas accentuate the effort made to contribute abundantly from architectural sources to produce surroundings beneficial to the morale of patients.

The wards, as the published plans show, separate the patients into three groups of twelve and six of six, the rooms being separated from each other, and from the corridor between the two 6-bed divisions, and leading to the 12-bed division, by plate glass windows. Supervision and attendance is made fully as easy as if the same number

Fig. 5. Sea View Hospital—Interior of central kitchen.

of beds were contained in one room. The means of segregation offered presents undeniable advantages. The diet kitchen of each ward is separated from one of the 6-bed divisions by plate glass, and from it the entire 3-room ward may be overlooked. The dividing corridor is extended to the northern end of each ward floor. On either side of it are the customary and some additional service rooms, the elevator, and stairs. At the southern end of each ward floor is a large solarium. Casement windows extend to the floor, and on the sash are provided removable framed muslin screens, so arranged, however, that they may be fixed in positions as will deflect any current of air from the bed when the windows are open. The heating surfaces permit raising the temperature of a ward very rapidly. Long-leaf quarter-sawed yellow pine has been used for the ward and corridor floors, and tile generally for lavatories, baths, and toilet rooms. No particular new materials have been experimented with, though in the wards of the surgical pavilion cork flooring is used, and the flooring, walls, and ceilings of the operating rooms are of tile. It would be impractical to further describe in detail the various buildings.

The special features not used, to my best knowledge, before the appearance of the original drawings are the ward divisions (the T wards); the grouping of such ward services as the fixtures and equipment for emptying, cleaning, and sterilizing vessels, the cremation of ward waste and the like in one room; trimless interior doors, a hard and durable wall material extending through and around the openings, the doors being check-pivoted at tops and bottoms; crematories for hospital refuse located beneath the boilers in the power house and accessible through the service tunnel at a lower level than and independent of the boiler house. In these retorts a normal temperature of 1,800° F. results from the use of the boilers; they may be operated without additional

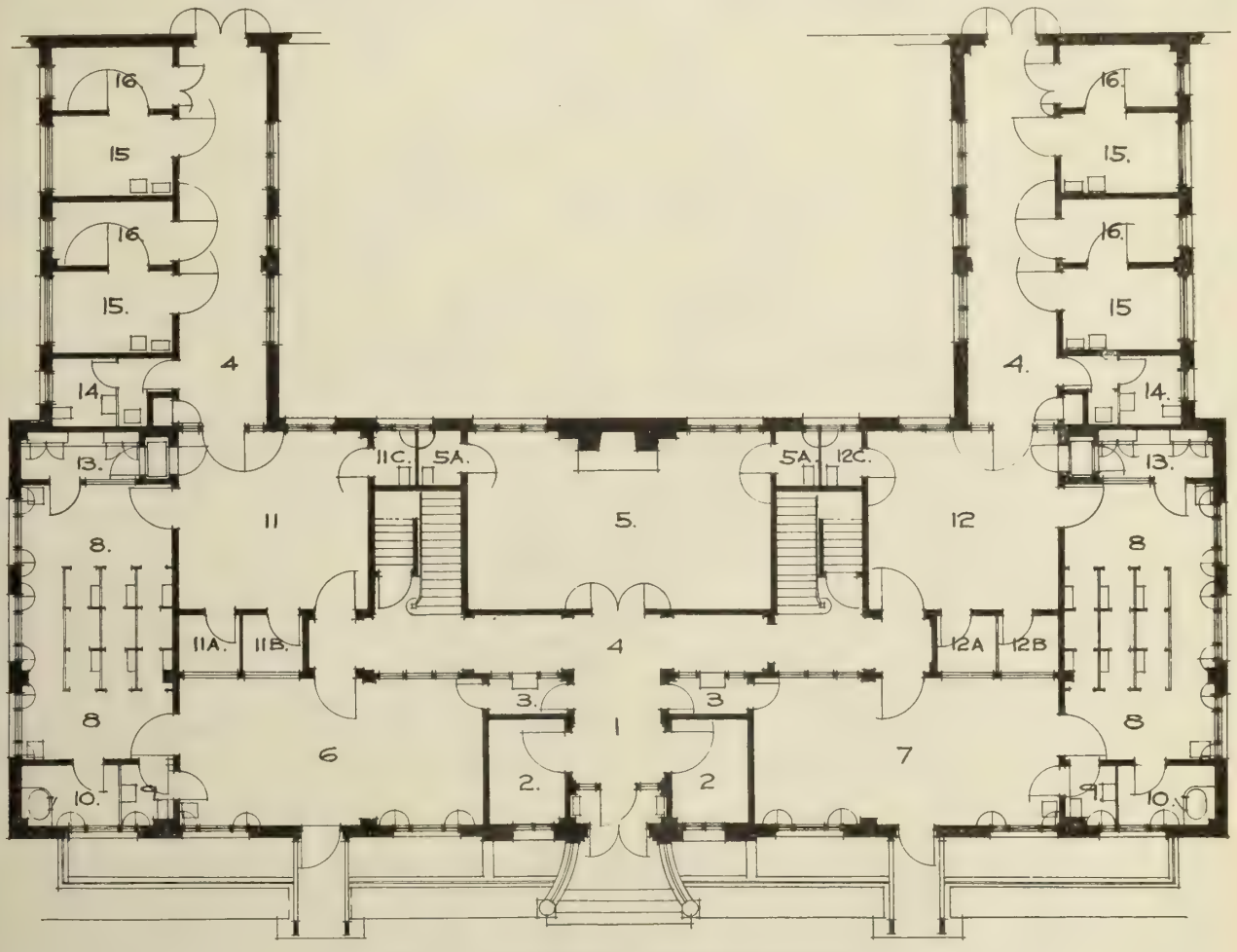


Fig. 6. Sea View Hospital—Administration building.

1, entrance hall.
2, ante-rooms.
3, offices.
4, corridors.
5, visitors' room.
5A, toilets.
6, incoming patients (women).
6A, toilets.
7, incoming patients (men).
7A, toilets.
8, shower baths.
9, toilets.
10, soiled linen.
11, 11A, 11B, waiting rooms (women).
11C, toilet.
12, 12A, 12B, waiting rooms (men).
12C, toilet.
13, clean clothes.
14, toilets.
15, examination rooms.
16, dressing rooms.

help and at a negligible cost for fuel. The electrically propelled food conveyor, automatically controlled from the ward service pantry of the central kitchen, will within a few minutes carry food to any diet kitchen and signal its arrival. It may be returned to the starting place or sent to another floor by the nurses or recalled by the dispatcher. It must be remembered that this carrier travels vertically in an elevator and a lift as well as horizontally in the tunnel. This carrier has since been patented.

To understand the cost of municipal work requires a knowledge of the method of appropriating money and the political conditions that obtain and operate favorably or unfavorably for economical progress. Many excellent reasons have existed in New York to require economy. It is, however, unfortunate that its board of estimate and apportionment, with which lies the power of appropriating money, may not take the initiative in providing funds for the intelligent continuing of work except as such funds may be requested by a commissioner. It is probably due to this condition more than another that the hospital is not entirely completed, and also to a lack of proper judgment, if not political importunity; that its present actual cost has been increased by some $300,000, for which the city of New York has received no proper equivalent.

The location of the site has made trucking a large item of cost and added to the cost of labor in consequence of shorter hours. These expenses, as well as that above referred to, should be considered in judging of the aggregate cost as well as the $110,000 spent in the landscape work or approaches. The entire hospital could have now been completed for $3,700,000, or at a cost of $3,650 per bed. Six hundred beds may be added at a cost of $1,250 per bed. The extras proper do not exceed $1,200, and, including alterations and additions required by the officers in charge, the increase in cost is not more than $9,000.

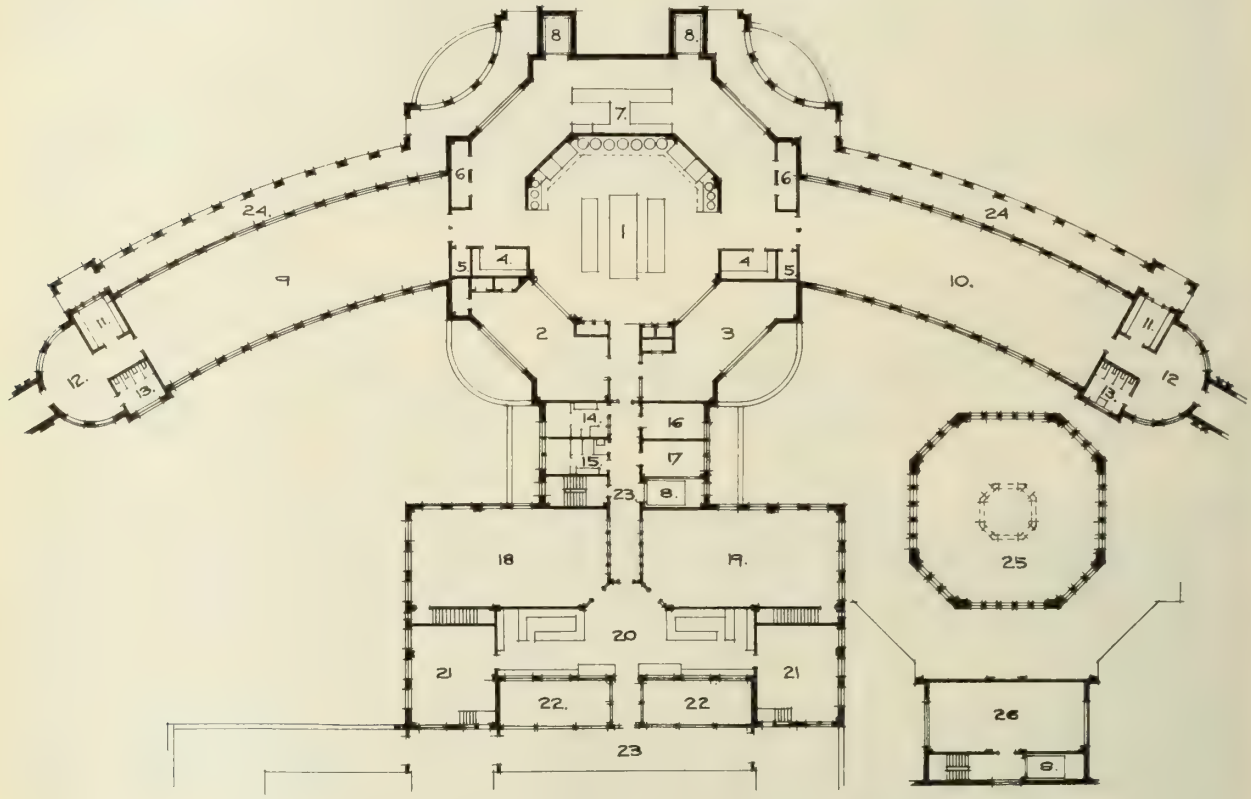


Fig. 7. Sea View Hospital—Dining hall and kitchen building.

1, kitchen
2, scullery.
3, diet kitchen.
4, bread rooms.
5, linen closets.
6, dish pantries.
7, serving pantry (patients')
8, elevators.
9, dining hall (men).
10, dining hall (women).
11, wash rooms.
12, coat rooms.
13, toilet rooms.
14, toilet (men servants).
15, toilet (women servants).
16, upper part of blending machine room.
17, range coal storage.
18, dining hall (men servants).
19, dining hall (women servants).
20, serving pantry (servants' dining rooms).
21, officers' dining rooms.
22, light court.
23, corridors.
24, porch.
25, upper part of kitchen.
26, flour storage.

It is well to correct here, and finally, as Mr. Raymond B. Fosdick has publicly done, the report attributed to him when he was commissioner of accounts, and quoted and published on page 29 of "Six Years of Municipal Research for New York City, Record for 1906-1911." The initiative in the investigation referred to may not be attributed to the commissioner of accounts. No sav-

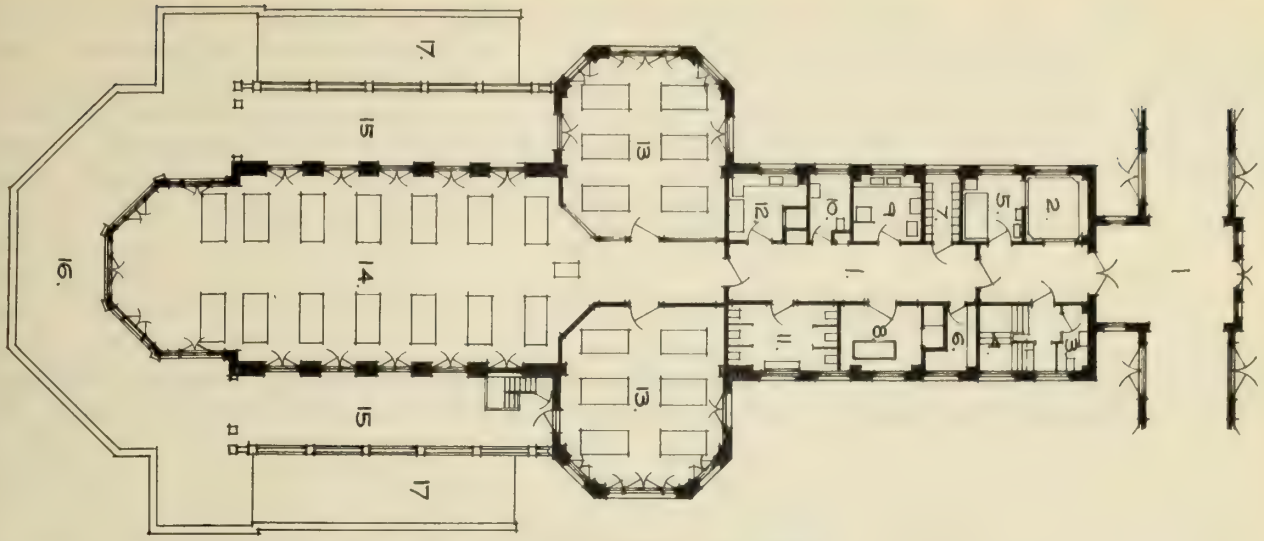


Fig. 8. Sea View Hospital—Ward pavilion.

1, corridor.
2, elevator.
3, doctors' toilet.
4, stairs.
5, private room.
6, linen.
7, store room.
8, bath room.
9, utility room.
10, nurses' toilet.
12, diet kitchen.
13, 14, wards.
15, porch.
16, terrace.
17, incline.

ing was effected, but an actual increase in cost of $300,000 resulted, due to a delay of some nine months and the temporary changes in the drawings and specifications made. This investigation is now presumed to have been instigated through political maneuvers, which misled even such an accomplished and experienced executive as the late Mayor Gaynor.

It is, I think, a great economy to provide for convalescence residence, so that under proper observation the patient may be fed and exercised until an actual condition of health is established before discharge. This we know is not now done, and as a consequence the hospitals contain innumerable cases that are returned again and again and finally settle down as incurables. The expense of their care and the economic loss of their efforts is incalculably great.

In hospitals there is a very large number of sufferers from incipient tuberculosis complicating other more acute illnesses. There are also many patients in our hospitals and clinics who have complicating surgical conditions in addition to their tubercular infection. At present these patients are either placed in wards with the nontuberculous, where they may further spread the infection, or are placed in tubercular wards where there are no adequate facilities for treating them, or their infections are supplemented by their neighbors. Sea View aims to correct this condition and prevent these many potential infections, which in itself is a large economy.

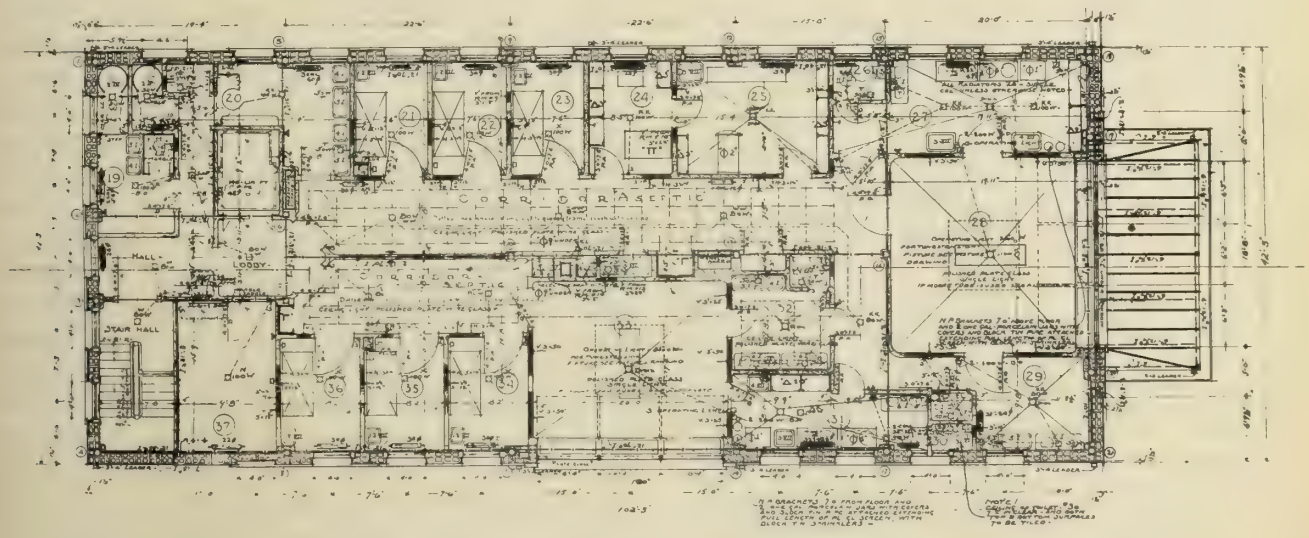


Fig. 9. Sea View Hospital—Second floor plan, surgical pavilion.

19, nurses' dressing room.
20, surgeons' dressing room.
21, 22, 23, patients' aseptic room.
24, bandage manufacturing room.
25, sterilizing room.
26, toilet.
27, wet sterilizing room.
28, aseptic operating room.
29, surgeons' room.
30, toilet.
31, wet sterilizing room.
32, surgeons' room.
33, septic operating room.
34, 35,36, patients' septic room.
37, x-ray room.

The corridors, walks, lawns, and gardens are all useful for diverting and entertaining the patients, and, if they will effectively assist in causing them to remain contentedly until their disease is arrested or cured, they will serve a very useful end.

If the hospital purpose of Sea View is intelligently conceived, then the medical profession should support it and oppose its diversion for use as a sanatorium for pulmonary tuberculosis, and appeal to the incoming city administration, from which a high plane of city government is anticipated, for the assistance necessary to the culmination of the hospital's purpose.

THE GERMAN HOSPITAL—ITS RELATION TO STATE AND PUBLIC.[1]

Insurance Laws Have Greatly Increased Demands, But Expenses Have Grown Amazingly—Danger That Incidents of Management May Overshadow Real Purpose.

By PROF. DR. GROBER,
PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF JENA.

I FIRST want to thank the president and the members of the British Medical Association, and especially the members of the Section of Medical Sociology, for extending to me the honor of an opportunity to speak to you on the development of the German hospital in connection with our insurance legislation.

My discussion of this subject will be somewhat difficult because, first, the organization of the German hospital is totally different from the English, and, second, because England is just beginning to introduce legislative insurance. As it would be rather tedious to define in my paper the entire construction of the German social insurance, it is necessary that I explain the meaning of at least some of the words used in connection with the system.

"Krankenkasse" is that board of insurance in which the working people with a certain income are obliged to be insured against acute illness lasting from six to twelve months.

"Versicherungsanstalt" is that board of insurance in which people are insured against permanent illness, invalidism, and senility. The complete titles are "Landesversicherungsanstalt" and "Versicherung gegen Alter und Invalidität."

Besides these boards, working people are insured in the "Berufsgenossenschaften" against accidents with which they may meet in their work.

The social insurance in Germany, especially the insurance against illness, has led to an exceptional and unexpected increase of the demands for treatment and nursing in hospitals. Formerly only few people who were dangerously ill could pay the fees for their stay in hospitals. Now the introduction of the social insurance has so increased the funds of the Krankenkassen, Versicherungsanstalten, and Berufsgenossenschaften, especially of the larger ones, that in such cases they can pay for their members without difficulty. People who were formerly slightly ill could not think of going to a hospital, but now the Krankenkassen prefer to send these patients to the hospitals on account of lack of proper care at home, and the patients themselves are very anxious to go to such an institution.

The social insurance against invalidism and accidents has also increased the demand for hospital treatment. It sends people asking for help as invalids to the hospitals to be examined, as well as those who may regain through careful treatment their ability to earn a living. The hospital is expected to give them this careful treatment because of more systematic medical attention and better control of hygienic surroundings than in treatment at home.

The number of hospitals has consequently greatly increased, and also the number of beds for the sick, and especially has there been an increase in the number of patients treated in the hospitals. The following data are given on the hospitals of Prussia from 1877 to 1910: the number of hospitals has increased from 888 to 2,314 (300 percent), the number of beds from 37,039 to 160,434 (400 percent), and the number of hospital patients from 211,060 to 1,304,641 (700 percent). This shows that today the services of hospitals are used to a greater extent than formerly. The beds are constantly occupied, because also people who are only slightly ill are received. In 1877 for every 10,000 inhabitants of Prussia there were 142 beds and in 1910 there were 405 beds; in 1877 81 persons out of every 10,000 inhabitants were treated in hospitals, and in 1910 330 out of that number were treated.

About five years ago experts declared it to be necessary that five beds be provided for each 1,000 inhabitants in cities of more than 100,000 population. As the demand for hospital treat-

[1]Elaborated for THE MODERN HOSPITAL from a paper read before the British Medical Association, Brighton, August, 1913.

ment is constantly increasing, this number would not be sufficient today, especially not for cities with industrial populations or for those whose population is obliged by law to participate in social insurance, and it is a fact that in the large cities of Germany we hear every day complaints about the lack of beds. In many hospitals the patients are lodged in overcrowded rooms. Smaller cities need about four or five beds, and country towns three or four beds, for each 1,000 inhabitants, except where unusual conditions may make more beds necessary. A large country district will certainly fill the hospital of its single small town frequently to the utmost. So we are obliged to conclude that legislation for insurance in Germany has increased and is still increasing the demand for hospitals and beds.

The German law makes a distinction between public and private hospitals. The public ones are usually maintained by corporations and establishments specified by legislation, and the private ones by single individuals, private establishments, or boards. To the former belong, therefore, those that are maintained by the empire, the federative states of Germany, the provinces of Prussia, the other larger states, and by country districts and towns, and also by the Krankenkassen, Versicherungsanstalten, and Berufsgenossenschaften. For instance, the German empire is the owner of all the hospitals in the German colonies, and the state of Prussia controls the university hospitals, usually called clinics, the large Charité in Berlin, and the military hospitals. Provinces of Prussia own the provincial lunatic asylums and the provincial midwifery schools. Districts or country boroughs of Prussia have erected many smaller hospitals of their own, and especially are the towns owners of many middle-sized and of some large hospitals. It is a fact that the development of German industry and trade and the growth of wealth in our country have enabled the towns to attend to the care of the suffering in a more complete manner than heretofore. The progress of the German hospital is due besides to the increasing demand for hospital treatment, to the effects of insurance legislation, to the growing wealth of Germany, and to the sound judgment of the town magistrates in hospital affairs.

Numerous hospitals belong to boards of insurance, Krankenkassen, Versicherungsantalten, and Berufsgenossenschaften, which receive only those persons who are members of their respective institutions. Some other hospitals belong to charity institutions, erected in former days, of a clerical or confessional character. These often undertake nursing and housekeeping by their own members.

There are also private hospitals with commercial interests, which interests are not, of course, connected with the public ones. These private hospitals belong to individuals—for instance, to a physician, to joint stock or limited companies, or to other registered corporations, or to several physicians or other persons, as, for example, private nurses.

The essential and practical difference between these two kinds of hospitals is the requirement from the private one of a concession from the government. Before the concession is granted, the owner or undertaker of such an enterprise, —i. e., the manager—is examined concerning his capability of managing a hospital. The public hospitals do not need such concessions, but they, as well as the others, are governed by rules enacted by legislation concerning building, furnishing, and conducting a hospital, which will be discussed later. So we can see that in Germany nobody is excluded from erecting and conducting a hospital, provided certain specified conditions are complied with. There is a great freedom in this matter, but the conditions are exacting and are strictly maintained. A monopoly does not exist, and the state has reserved only the right of inspecting the hospitals.

The chief duty of hospitals is to cure the sick; to treat and nurse those who cannot recover is only secondary. In former centuries only the latter service was the duty that was performed, and especially treating and nursing the incurable, affected with the terrible diseases of the middle ages, were considered of great importance. Many of the well-fitted and celebrated hospitals in Germany today have risen from those infirmaries that were erected years ago for the care of the destitute sick and confirmed invalids.

Nowadays the duties of hospitals have increased. The social insurance managements very often need the help of hospitals to determine whether a patient is really incapable of earning a living, and, if incapacitated, to what extent this condition may be caused by illness, invalidism, or accident. The number of patients sent to some of the hospitals only for this purpose is very large. I know of state and city hospitals in which more than 50 percent of the patients are staying only to be carefully examined. The result is a very lively change in the supposed condition of the patients.

But the town hospitals especially are very often obliged to perform some other important duties; for example, they must receive any kind of unconscious people found on the street, act as organs of the sanitary policy, and furnish ambulance service, in addition to which persons who may be

suspected of injuring themselves and require observation are sent to the hospital. There exists the general opinion that the town hospital is the best and at all times the ready helper in every need of sick or mentally weak persons.

It is my opinion that, apart from these more prominent duties of the hospitals, there are others, generally not considered so necessary or so desired, but of great importance to the public health. Besides curing, nursing, examining, and safeguarding patients, the hospital must educate the inmates how to lead a healthy and proper life and how to avoid the increase of present and the occurrence of future illness. The patients in the hospitals should be taught cleanliness of body and clothing and the use of suitable food, so that the example set may be followed in the home. Of course there is the danger of "spoiling" by this system that class of people for which the hospitals are especially erected, and therefore luxuries in hospitals must be strictly avoided.

The cost of building, furnishing, and maintaining a hospital has increased considerably in the last thirty years. The reason for this increase is not entirely due to the introduction of social insurance. It is caused, first, by the increasing value of ground, the increased price of building material, and the advance of the wages of workmen; and, second, the improvements in technical fittings, especially of heating, ventilating, lighting, and other sanitary arrangements, have greatly increased the cost of these items, and the installation and maintenance of these improvements have added to the general cost. What is saved by machines in place of manual labor—i. e., by less wages—is spent on the investments themselves. There is, however, the advantage that this work is properly and hygienically done.

The esthetic demands of the architects, the competition for pleasing the eyes of spectators and patients, have also considerably increased the cost of these institutions. In many cases hospitals have become a characteristic sign of an increased financial, practical, and artistic power. As in olden times cathedrals were erected as monuments of culture and as memorials for the future, today wealthy cities erect with the same idea their beautiful and expensive hospitals. This voluntary increase of cost can, of course, be easily avoided.

Thirty years ago in Germany the entire cost of building a hospital, per bed, amounted to not more than 3,000 to 4,000 marks. Today for hospitals in large cities at least twice that sum is needed. For smaller hospitals 5,000 to 6,000 marks may be sufficient, which will include ground and furniture. The reason for the difference in cost between large and small hospitals is evident, because the former are usually erected in cities where ground is valuable and wages are high. A greater number of patients require more rooms, and therefore the technical arrangements are more complicated, in addition to which there is needed a larger supply of medical appliances for the greater variety of cases. It is, however, incorrect to assume that the more elaborate medical supplies have materially increased the cost of the maintenance of hospitals. There are only a few accessories that are costly, such as x-ray apparatus, radium, and recently mesothorium. Taking care of the medical appliances and keeping them in proper condition requires, it is true, some expense, which is necessary because there are some delicate instruments and apparatus on the accurate operation of which very often depends the fate of the patient. The principal causes of the present increased cost of the management of hospitals are to be found in the greater number and higher salaries of the personnel and in maintaining the technical arrangements. Besides this, the more exacting requirements of the patients, especially concerning the diet, add to the cost, as the rising prices of food are distinctly felt.

The increased cost of the hospitals prevails throughout Germany in the same manner. All the patients have to pay for their maintenance. If they themselves are not able to pay, and they are insured in a board of insurance—as "Krankenkassen," "Versicherungsanstalten," or "Berufsgenossenschaften"—the latter pays for them. Such is the case with most of the hospital patients in Germany today. If a poor patient is not connected with any board of insurance and is in need of hospital treatment, the native or home district is obliged to pay for him. Every German who for two consecutive years has lived in the same place acquires the right to have this place—his home or native place—pay for him when necessary.

Only very seldom and to a small extent can hospitals provide a charity bed. In such cases it is a question either of recourse to some old or new funds, or of free beds in the university clinics, which latter will receive specially interesting cases for the instruction of the students or for scientific examination. But these means are very limited, and in many hospitals they are missing altogether.

The government, the courts of justice, and the army can also send patients to hospitals, but they must pay for their maintenance. Special and reduced prices are arranged for patients from institutions that send them regularly, as the Krankenkassen, Versicherungsanstalten, and Berufsge-

nossenschaften. It is a general principle that native patients shall pay less than strangers. The prices for staying in a hospital vary according to the kind of room and board, but as a rule the prices in hospitals in any one place are nearly alike in order to avoid unnecessary competition.

Most of the patients are placed in the third class, where they share a large room or hall with many others, the number of occupants varying according to the size of the room. The price per day in the third class is from 2 to 4 marks. The price per day in the first and second classes is usually from 6 to 12 marks, but in some hospitals the prices are higher. Very often specially expensive items are charged extra, as, for instance, examination or treatment with x-rays. In the higher classes a physician's fee is generally also charged extra. First- and second-class patients have a room with one bed and not more than two beds, and there is also a difference in the meals for these patients.

The income mentioned is not, however, sufficient to equal the expenses, and most of the state and town hospitals receive assistance from an extra allowance taken from the taxes of the state and town. This allowance varies greatly with different hospitals. Some hospitals require only a few pfennige per day per patient, while others require from 1 to 2 marks. The amount of the allowance depends on various conditions—on the number and fees of the persons forming the medical, nursing, and managing staff of the hospital, the prices of food supplies, the care of furniture and medical apparatus, and generally on the economy of the management. It is understood that the rate per day paid by the patients regulates the amount of the allowance. Of course it may happen that an indigent inhabitant of a town is sent to the hospital, in which case the town must bear the daily rate as well as the daily allowance. It is very much to be desired, and there is no urgent objection against the proposition, that the daily rate be raised so that in future all hospitals can be conducted without any additional allowance. In Germany it is not customary to make regular charity gifts to hospitals, and when a gift is made it is only in a very modest way. I have known in only one case such gift to be of a significant amount. More frequently bequests of various sums are left by will to hospitals, but these are usually specified for a certain purpose—for charity beds, or in some cases for the erection of a pavilion or barrack. It is customary in some hospitals for the first- and second-class patients, when they leave, to give a small sum to be used for Christmas presents or for general use.

As the adjustment of the hospital budgets has become so difficult, numerous methods have been proposed to reduce the expenses. General economy has been attempted, but without permanent success. It has proven impossible to erect good hospitals of a simpler construction, as by that plan justice cannot be done to the technical, hygienic, and medical requirements necessary for the welfare of the patients.

Since 1911 another method to reduce expenses has been recommended. There are usually many patients in the hospitals who do not need the complicated and expensive arrangements which are required for persons who are seriously ill. The former are those who are only slightly ill and invalids with chronic diseases, and it is the intention to send these patients, after a careful examination of several days in the chief and centrally located hospital, to smaller establishments in the country. Especially convalescents and persons affected with anemia, rheumatism of the muscles, chronic diseases, and other similar cases are considered patients who should be sent to the latter more home-like hospitals. At the meeting of the German Association of Public Health in Elberfeld in 1911 this plan was first discussed.

As has been mentioned, the state has reserved the right of inspecting the hospitals. In some federative states of Germany legislation governs the building, outfitting, and managing of hospitals. The laws are not the same in the various states, but the laws of Prussia have been generally followed. The Prussian regulations in this matter are very strict and of an advanced character, especially those revised in 1911. The laws differentiate between small and large hospitals, and between those which receive any kind of patients and those which take care of special diseases. The regulations also apply to the character of the hospital grounds, to the space between the buildings, and to the separation of the various kinds of patients.

The German city hospital is usually a general one. There are no special fever hospitals for infectious diseases, and a patient afflicted with a contagious disease is sent at once to a separate pavilion or department of the general hospital specially fitttd for that purpose. Every hospital must have rooms for temporary examination of suspicious cases whose nature cannot be at once determined. The size and height of the ward rooms, the arrangement of the stairs, and the construction of walls, windows, and doors are definitely specified. Every ward must have a day room and every hospital must have sufficient ground for a garden. Ventilation, heating, and water supply are carefully considered. A certain number of bath rooms and rooms for laboratory

examinations and for operations are required. The housekeeping apartments are completely separated from the ward rooms. Larger hospitals must have two special buildings—one for the housekeeping arrangements, kitchen, and wash rooms, and one for the disinfection rooms and mortuary.

Special rules are provided for certain hospitals —as institutions for lunatics, children, cripples, inebriates, and tuberculous people. If a comparison is made of the present regulations for hospitals with those of ten years ago, it will be seen that these regulations have followed the progress of medical and hygienic science. The hospital and its field have been the subject of many medical and bacteriological examinations, and considerable literature has been prepared on the hygienic conduct of hospitals.

Increasing the size of the hospitals has caused the number of clerks and officials connected with these institutions to grow, and in some cases there appears to be some danger that the management dominates the medical branch, making the positions of the physicians very unpleasant and sometimes unbearable. As the chief duty of the hospital is to treat and cure patients, the physicians should have a voice in the management of the hospitals, particularly as public opinion is disposed to hold them responsible for the proper conduct of the institution.

The increased number of beds requires more nurses, and this need of additional nurses cannot be fully met for the reason that, in consequence of woman's "emancipation," the inclination to become a nurse has greatly diminished in Germany. It is usually estimated that one nurse can attend to 10 beds, but in many hospitals a nurse is required to attend twice that number. The social classes from which the nurses come vary greatly. There are some sisterhoods of a religious character that work solely for charity and others that conduct their affairs on a financial basis. Some large cities have their own sisterhoods connected with their hospitals. The law requires those who are to become nurses to be taught in a school for nurses that is authorized by the state, and nurses who have been graduated from such a school are registered and are then prepared to nurse. A certain wealthy German city pays one nursing nun 80 marks per annum, including board and lodging, while another city pays a member of its own sisterhood, operating under similar conditions, ten times that amount. It is the intention to equalize these rates where the conditions are practically the same. In some hospitals the nurses are required to perform also the duties of servants, while in other hospitals both male and female servants are provided. In some places services are rendered by members of brotherhoods in addition to those of the sisterhoods, but not always on the same conditions or according to the same examination.

To be received in a hospital in Germany is no longer considered an act of charity as it was in former days, but is in accordance with arrangements made between the management of the hospital and the patient, either the latter paying for the services rendered or the expense is borne by the organization of which the patient is a member —the "Krankenkasse," "Versicherungsanstalt," "Berufsgenossenschaft"—or his home town. The increasing wealth of the people and the general advance in the mode of living, together with a feeling that certain rights are conveyed by the method of assistance provided, have a tendency to enlarge the demands of the patients, who have been in a measure "spoiled" by the new arrangement. These demands refer, as previous stated, especially to the diet, but refer also to the bedding, clothing, furnishing of the rooms, and, in fact, to the entire hospital management, or, as it is called in Germany, the "order of the house"—Hausordnung. This demand for luxuries in certain hospitals erected and maintained for the working and insured classes has extended beyond reason. Therefore, while it is proper for the public to be interested in the management of the hospitals, it should not, however, control these institutions. Hospitals should not, as formerly, be closed to the public, except in cases of infectious diseases, and the public should be acquainted with the method of management of the hospitals and the mode of life of the patients. It is advisable—and I have proven the efficacy of the step—to speak in pubilc on the conditions prevailing in hospitals, as such course will have a tendency to stop the criticism and censure that has been inveighed against these institutions. The development of the German hospital has demonstrated that it would be advisable for the hospital management to have charge of the sanitary and hygienic conditions in the district, and thus become an important factor in the improvement of the public health.

The chief features of my discussion may be summarized as follows: the social insurance in Germany has improved the service of the hospitals by increasing the demand for hospital treatment; the number of hospitals is greater, and consequently there is a larger number of beds and more patients are treated. Some of the boards of insurance have built hospitals of their own without encountering any difficulty, so that our experience in hospital matters has been greatly increased. The progress in the management of

hospitals is due in a great measure to the advances made in medical knowledge, in bacteriology, and in promoting public health, and also to the active interest taken in hospitals by the families of the emperor and other sovereigns. The regulations provided by the state for the erection, furnishing, and management of hospitals has prevented a monopoly in the conduct of these institutions.

The evolution of the German hospital has not yet come to an end. It may be still too bureaucratic, but the change so far is very commendable. There would be a vast improvement if the hospitals were placed to a greater extent under the supervision of the physicians—especially under those gifted and trained for that purpose—concerning which point a few good examples are found in the United States and Austria, but not generally in Germany.

ADMISSION OF PATIENTS, HISTORY TAKING, AND SUBSEQUENT CARE.

Technical Operations of Receiving, Examining, and Distributing Patients—Forms Employed—Care of Effects—Division of the Work.

By KARL H. VAN NORMAN, M. D.
ASSISTANT SUPERINTENDENT JOHNS HOPKINS HOSPITAL.

PAPER III.

PATIENTS are admitted to the hospital through the admitting office in the administration building. The regular hours for admission are 10 a. m. to 12 noon and 2 to 4 p. m., although emergency cases are admitted at any hour of the day or night. The latter, if they apply at the administration building, are admitted through the admitting office. If first seen in the out-patient department, they are sent directly to the ward after the admitting officer has been notified by telephone from the dispensary and given instructions to what ward the patient is to be sent.

The examination of patients for admission is done in the out-patient department and in an examining room adjoining the admitting office, the majority being examined in the former place, where to each who requires ward care is given a printed form or admission blank, filled in and signed by the examining doctor. This slip must then be presented by the patient at the admitting office, where it is countersigned by the admitting officer before the patient is sent to the ward. Obviously, patients for the private wards are not physically examined, but are seen at the admitting office, where the blanks are filled out by the admitting officer.

For every patient admitted through the admitting office the admitting officer fills out a printed form, which states the date and hour, name, address, birthplace, age, sex, occupation, civil state, race, names of nearest relatives or friends, to what service the patient is assigned, the ward, and the rate per week. At the bottom of this slip is the payment guarantee, which is signed by the patient or whoever is to be responsible for the payment.

For every admission an entry is made in a register in the admitting office, a note being made of name, address, by whom admitted, hour and date, diagnosis, and action taken.

Public ward patients, before and after seeing the admitting officer, wait outside the admitting office on seats provided for that purpose. Private patients wait in the reception room of the hospital, a short distance from the admitting office. When the patient enters the admitting office, the admitting officer notifies the front office, which at once notifies the ward to which the patient is going and the ward orderly is sent. A wheel chair is always brought by each orderly for all cases except ambulance cases. The latter are carried from the ambulance and placed on a wheel stretcher in the admitting office, and are wheeled thence direct to the bed, where they are undressed and have temperature, pulse, and respiration taken. They are also bathed if the ward officer so orders. He is always summoned when a patient is taken to his ward. All other patients are placed in an easy chair in the hall of the ward, and treated in like manner. If they have no fever, the routine order is that they shall receive a tub bath before being put to bed. Those patients with fever are at once put to bed and further treatment depends on the ward officer's orders.

The patient's clothes and valuables are listed by the nurse in a book kept on each ward for this purpose. The clothes are placed in lockers off the ward, but all valuables and money are put in a large envelope with a printed list of valuables on it, where each article is checked off. The clothes are signed for by both the nurse and the patient, and the valuables and money are signed for by the nurse, patient, and clerk in the business office, who receives the valuables from the nurse and deposits them in the vault.

The routine care of patients is, in general, the

same on all the wards. There are some differences in the various services which will be noted later, but the plan followed in the medical service will serve as a general scheme.

The history is taken and first physical examination made by a fourth-year student, who serves as a clinical clerk. If the patient is very ill, the intern (ward officer) makes the first physical examination, with the student in attendance. After the history has been taken by the student it is reviewed by the intern, who, if he has not already made the first physical examination, makes one now. He dictates to the student the result of this examination, which becomes a part of the history. The student, after the history and examination are finished, does a complete blood count and takes the blood pressure. He has also to examine the stool and sputum when obtained. The first urinalysis is done by the intern, the subsequent by the student.

The student and intern see the patient daily. The resident physician or his first assistant sees all patients daily. The latter makes rounds for teaching once a week, the former twice a week. The chief of service, or one of his assistants, visits the patients daily and makes ward rounds for teaching twice a week. All the interns report to the resident or assistant resident each day at 7 p. m. on the status of their wards.

Notes on the histories are made by the chief of service, his associates, the resident, assistant resident, intern, and students. These last make note of all laboratory findings, or of special examinations required by the resident. The intern makes a written note of the condition of the patient twice a week, and daily if the patient is critically ill. The assistant resident or resident, or both, make notes on admission and thereafter as indicated. The chief of service usually makes a note each time he sees the case.

The chief of service, resident or assistant resident always sees a patient before discharge and notes the condition. All discharge orders are checked by the resident.

Blood, spinal fluid, urine, stool, and sputum cultures, Widal, Wassermann, and tuberculin tests, and x-ray and electro-cardiagraph examinations, etc., are made by men in charge of special departments at the request of the resident. Reports of these special examinations are sent in writing to the ward and incorporated in the history.

A "history meeting" is held once a week. At this meeting the history of each patient discharged during the week is turned in by the intern. The resident fills in the final diagnosis and the result of treatment. The case is then discussed. Later all the histories, filed chronologically according to the date of admission, are bound in book form in consecutive series of fifties.

With private patients the routine is naturally different. As students are not allowed in the private ward, the intern always takes the history and makes the first physical examination. The resident later repeats this and records it in the history, and further examinations and notes are made by the patient's private physician.

The surgical service differs from the medical insomuch as the first physical examination is done by the intern with the student, and the second physical examination is always done the same day by the resident or assistant resident. The resident or assistant resident makes rounds through all the wards daily. This service has on each ward a second assistant resident, who is senior to the intern and who supervises his work.

Notes of the operation are made by the first assistant, except in cases of peculiar interest, in which the resident himself makes the report. To save time, he uses a dictaphone. A typist later records in the history the report of the operation as recorded in the dictaphone.

In the obstetrical service the history and general physical examination are made by the intern and assistant resident. The assistant resident makes a record of the examination of all normal cases, and leaves the notes of all abnormal cases to be made by the resident or chief of service. Rounds in the obstetrical wards are made twice daily by both resident and intern. Before being discharged, every obstetrical patient is examined by the resident or chief of service and a note of the present condition made.

The gynecological service is quite different from the others, as no students are permitted on the wards, except twice a week on rounds with the associate chief of service and resident. The history is taken by the intern, who makes the general physical examination, but not that of the pelvic organs, except in married women. In all unmarried women the pelvic examination is made by the resident. The history notes on admission and discharge are made by the resident or assistant resident, and the post operative notes by the intern. The records of operations are written by the first assistant.

Throughout the entire hospital all doctor's orders are put in writing in books kept for that purpose. Each order is written with an indelible pencil by the nurse and the doctor signs it. The date and the hour of the order given are always specified.

In emergencies the doctor may give orders over the telephone, but these must be recorded in the

book and later signed by him. At night messages sent to doctors are written in the book and the book is sent by a messenger to the doctor's room. He writes his order and signs it. All these books, when filled, are filed as permanent records.

The method of calling the resident staff is by means of bells in the older part of the hospital and telegraph tickers in the three new buildings opened during the past year. These bells and tickers are present in all the wards and in the administration building, where the resident staff quarters are. The buttons for ringing these bells are in the front office, where one operator can in a few seconds sound any of the signals. Each doctor has a "bell" or signal—such as one ring followed by three rings, etc.—and when he hears his call he at once telephones the front office to ascertain why and where his services are required.

All financial arrangements are made with the patients when they come in, except when too ill to be questioned. Under the latter conditions the admitting officer visits the patient later in the ward or sees his friends or relatives, and thus settles the terms of treatment.

Patients desiring admission who are too ill to come to the hospital for examination are seen at their homes by the intern who is on "extern call." The visit is arranged by the admitting officer, who instructs the intern before leaving as to the nature of the case. After seeing the patient, the intern reports back to the admitting officer by telephone, if urgent, or on his return to the hospital. If necessary, the ambulance is at once sent, but the question of admission rests with the admitting officer.

Visiting in the wards is permitted on Tuesday, Thursday, and Sunday from 3 to 4 p. m., and on Wednesday and Friday from 6:30 to 7 p. m. Each patient is allowed two visitors in the afternoon and one visitor at night. Visitors are admitted only on presentation of "visiting cards," which are issued in the admitting office for each patient who is accompanied by a friend or a relative, or mailed to the latter if the patient comes alone. The tickets are transferable from day to day, though not for the same day. To prevent reduplication of cards, an entry is made in the admitting register when the cards are issued. Private patients may be visited daily from 10:30 a. m. to 12 noon and from 2 to 8:30 p. m. No cards are issued, as the number of visitors is not limited, except by the physician's order. The enforcement of the rule of the hours for visiting is left with the head nurses.

All inquiry and information of the condition of patients comes to and is given out through the front office. When the inquiry is made, the office calls the ward by telephone and obtains the report of the patient at that time. No outside call asking for the condition of a patient is permitted to go through direct to the ward, except when the call is for a specified doctor on the staff.

When a patient becomes critically ill, a "critical condition form" is filled out by the doctor in charge of the patient. This slip is dated and the hour specified, and is immediately sent to the front office, and the nearest relative or friend is notified by telephone or telegraph directly or through the police department. The clerk in the front office who sends out this notification signs the slip, noting the hour at which the information was given. This slip is then taken to the superintendent's office, where it is filed.

When a death occurs, a "death notice" is made out in quadruplicate by the nurse in charge of the ward. These notices specify the exact hour of death and are sent at once to the superintendent, the superintendent of nurses, the front office, and the doctor in charge of the patient. The notice sent to the superintendent is filed. On receipt of the death notice the front office immediately notifies by telephone, telegraph, or through the police department the nearest relatives or friends.

Permission for an autopsy is obtained by the doctor who has been in charge of the patient or by the resident (or his assistant) in charge of the service. No autopsy can be performed until the post-mortem examination form is made out. This form states (1) that the body of the deceased has been placed in the morgue, stating the day and the hour, and signed by the nurse in charge of the ward where the patient died; (2) that permission to make the examination has been granted the hospital by the nearest relative, which permission is certified by the doctor who had charge of the patient or the resident or assistant resident of the service, and is approved by the superintendent or assistant superintendent, without whose authorization no autopsy can be performed; (3) that the body has been delivered after the autopsy to the undertaker, who signs for receipt of same, stating date and hour.

Mention has been made of the electro-cardiograph. This instrument is in a special quiet room in the basement of the surgical building, and from it wires are laid to some of the medical wards in the hospital. In this way electro-cardiograms can be taken on many patients without removing them from the ward.

The front office has been referred to a number of times. The staff here consists of two clerks, three telephone operators, and a messenger boy.

All except the messenger are young women, and the chief clerk has charge of the office. The messenger is on duty from 7 a. m. to 7 p. m., and the clerks in relay from 8 a. m. to 7 p. m. The telephone operators are on duty in relays from 8 a. m. to 9:30 p. m. At night the office is in charge of a man whose hours are from 7 p. m. to 7 a. m. After 9:30 p. m. he also takes charge of the telephone switchboard.

The above is a more or less brief outline of the admitting and ward organization throughout the hospital.

CAUSES OF AND REMEDIES FOR UNSATISFACTORY HOSPITAL ARCHITECTURE.

Architects Should Have Expert Advice of Hospital Administrators—Unqualified Trustees Should Also Have Expert Counsel—Inexperienced Architect Not Necessarily Incompetent.

By T. J. VAN DER BENT, of McKim, Mead & White, New York.

THE planning and construction of a modern hospital is a very intricate problem. The unsatisfactory results obtained in many new structures, and the severe criticism in several instances, might be prevented, or reduced to small details and unimportant features. It needs the careful study of the causes to bring forth the proper remedies. The principal reasons for failure of complete, or reasonably complete, satisfaction are as follows:

1. The selection of an incompetent or inexperienced architect.

2. Insufficient knowledge in matters pertaining to the needs and requirements of the new building on the part of the building committee, the directors, trustees, etc., or those directly in touch with the architect.

3. The lack of unanimity in deciding different questions of management and medical problems, which influence the planning and construction.

4. Changes in personnel of the institution in the higher as well as the lower offices. In this connection, often lack of harmony between different departments.

5. The lack of a complete program before the site is obtained and plans are started for the new structure.

6. The failure to appoint a competent medical adviser at the same time when the architect of the building is selected.

7. Judging of competitive plans for a proposed new institution without proper data for comparison.

I.

The selection of an incompetent architect is a rare occurrence, even granting the possibility of undue political or social influences. The great responsibility placed on directors or trustees of a hospital will make them hesitate to select any but a well-known and responsible architect. Furthermore, without trying to compliment the American architects, the general average of architects in the United States is above the general average outside of the United States. The architect-builder—a very common personage elsewhere—is a great exception. The two occupations cannot be associated satisfactorily. Here, where scandal and graft are brought before the public and advertised more than in any other part of the world, this has been felt to such an extent that no reputable architect would be inclined to experiment. The combination of architect and builder in this country is indefensible. The selection of an inexperienced architect is more frequent. Hospital building is not an every-day occurrence in architects' offices, and only during the last few years has hospital construction been made a special study by a comparatively small number of architects. Special study is essential to successful planning. It will be difficult to find architects experienced in hospital construction in many of the small communities, and it happens very often that there a local architect is chosen who is entirely unprepared and inexperienced in this type of building. The usual performance of making a trip to Europe, afterwards through the United States, and in the shortest time possible visit numerous hospitals, leads to the most undesirable results. It requires careful comparison before being able to judge the good or bad features of existing institutions. A hasty examination of various institutions will result only in an extensive collection of undigestible data—undigestible, while the preliminary study of hospital requirements is lacking. The result obtained in these instances will be a hospital with features copied from different sources—some good, some bad, according to the impression made by the "showman" who leads the visitor around and shows off his preferences and advocates his special features. A number of the newer American hospitals are of this type—fragments of different

European and American institutions put together without due consideration to the local conditions or requirements. If the architect chosen is a competent architect, although inexperienced in hospital building, his mistakes will never be fatal and beyond repair as long as he has obtained the assistance of the proper hospital authority. Who this adviser or authority should be, and how much his assistance should amount to, will be considered later. Inexperience will result in the selection of less satisfactory materials, mistakes in small details, extravagances and unnecessary display, or gloomy, overplain, prison-like structures. The architect should not be required to judge professionally about the actual grouping of departments and buildings, the arrangement of rooms, the detailed requirements in the rooms, or the relative size. It is unjust to require that he know all about hospital management, the medical or surgical features of a hospital. One may as well ask that he be expert in civil, mechanical, sanitary, or electrical engineering, an able manager of a large kitchen and dining establishment, an experienced laundryman, a pathologist, a good physician, and an eminent surgeon. The study of each and every one of these professions is needed in hospital building. Justified, however, is the demand that the architect be acquainted sufficiently with the general work in hospitals, with the routine of the institution, with the general character of the greater number of diseases, and frequent or ordinary hospital cases. As to the knowledge of good hospital construction, only experience will teach the proper selection of materials and details, the selection of which is often made very difficult by the uncertainty as to what is more important—strict economy or the conscientious carrying through of so-called sanitary and hospital principles. These last terms, "sanitary construction" and "hospital principles" are again so vague, and opinions among hospital doctors are so widely apart, that to this I shall have to return later.

Hospital planning is a matter of deep study of the requirements, the means and methods of management, which are in each case different. Existing buildings may serve as examples for details, but each new case has so many different conditions that copying from existing buildings is mostly a poor solution of the new problem. Where we do find new hospitals which show distinct individuality, where departures from the very ordinary lines are noticeable, we will also find on investigation a careful study of the especial wants and requirements, although the solution may not always be the most fortunate. The attempt to give a new solution to a distinctly new problem is there. This should be more encouraged and less criticised. Slavish following of present hospital ideas—often fads—will not lead to great progress.

II.

The management of a hospital by a board of governors, trustees, directors, or similar officers, has the great advantage that it makes the hospital management practically free from political influences and political graft. If the choice of governors is carefully made, it is a most satisfactory solution of a difficult problem. It would be a step backward if this form of hospital government were to be abandoned and the benefits of its being free from politics thus lost. It would only come about through the attempt of the directors to do more than they are supposed to do about deciding matters outside of their proper sphere. These boards of directors, consisting virtually of men without medical, surgical, engineering, or architectural knowledge, will, from time to time, attempt to decide matters on these lines strictly beyond their grasp. They are not required nor expected to decide such matters. They have enough serious work in the general business management, the running of the institution, the careful study and planning of the financial situation. If matters are brought to them on which they lack knowledge required for a prompt decision, they should obtain expert advice. Having obtained this advice, they should follow it and not try to sway the opinion of their adviser. If the superintendent of the institution is a capable professional man, advice could and should be obtained from him. The appointment of committees, who often send in endless reports, and who are without decisive power, leaving the final decision to the directors or trustees, often placing before them the difficulty of choosing between different recommendations, is very unsatisfactory. A still graver danger is the presence in the board of directors of men who have some, although very limited, knowledge of certain of the subjects mentioned above. The opinion of such members is often taken for actual expert advice by the other members of the board. In fact, they are intrusted most times with the decision on such matters, although unequipped with knowledge of these scientific problems.

One of the greatest problems, that of the planning of a new hospital, should never be decided by the board directly. They should appoint a building committee fully acquainted with the problem and able to decide on all the questions which will arise. It is unnecessary that any of the directors should be members of this committee. This committee may consist of men chosen from the staff, the superintendent, or

capable men outside of the hospital. It should be small in number, and have full power on all matters pertaining to the planning.

The directors have in their hands three principal decisions—namely, (1) the general policies of the hospital, (2) the size of the new structure, (3) the total cost of the new building.

These three matters should be decided before plans are made; if possible, before the hospital site is chosen. The next step after these decisions is the appointment of an architect and the appointment of a building committee, or, if capable, the general superintendent may take charge of the planning and give all instructions to the architect about matters not strictly belonging to the architectural or engineering profession. The board of directors should decide only the final result—namely, the completed building plan.

III.

Confusion during the time of planning and building operations, dissatisfaction after completion, numerous changes during and after erection of the building, are caused by the lack of unanimity in decisions of the directors. If they were unanimous, even though they were wrong, the results would be satisfactory to themselves even though they were criticised by others. There would exist consistency in the entire work, and general principles would be carried through in as satisfactory a manner as possible under the circumstances. But if opinions differ on certain subjects and decisions are taken by a small majority, it usually happens that the opinions of the minority prevail at a later date when the work has been entirely or partly executed. Costly changes and unsatisfactory results must then be expected. Sometimes the proposed changes are of such a nature that they become practically impossible and prohibitive on account of cost. The entire planning of the building and the work of the architect—the innocent victim of the above circumstances—is then severely criticised. Entirely blameless, the architect may suffer serious damage to his reputation.

The policy of the hospital is the first and main guide for the planning, inasmuch as it locates the different departments, allots to them their respective areas of floor space and defines the method of administration, and all decisions thereon should be taken unanimously. If there are different opinions, they should be carefully "threshed out," weighed, and argued until such a unanimous decision is reached. If the directors were equipped with complete knowledge for these decisions, this should be a simple matter. If they are lacking in knowledge, they should leave these matters to a more competent party and appoint a man as their adviser who does know and can decide for them. On matters of construction and plan, opinions usually differ still more. Architecture is one of the subjects on which everybody gives himself the right to have an opinion. On legal matters, one will listen to and follow the advice of a lawyer, on medical questions a doctor's opinion is taken, but, although entirely unfamiliar with the study of architecture, every layman has his own opinions on the work of this profession and desires to carry this opinion through, right or wrong. The layman seems to obtain his knowledge of architecture from some "Northeaster," while the architect's knowledge is obtained through many years of practice and after years of preparation and study. Proper instructions to the architect as to the wishes of the board of directors, or unanimous decisions on matters of planning and construction, are seldom, or never, given. Objections of some members to the arrangements in the preliminary plans are withheld or outvoted by others. Later, often too late, these same objections are raised again. Taking, for instance, one example at random—the location of the outpatient department. If once decided, and the building construction has progressed beyond the building of the rough walls, it is practically impossible to change the location without making the entire plan a patchwork. Numbers of similar cases can be cited. The location of kitchen, dining room, main entrance, private entrance for private patients, all are serious and principal questions on which a decision cannot be changed after plans have been started without upsetting the entire scheme and making a rearrangement or a new start necessary.

Birthrate In Germany Decreasing.

H. Fehling, in *Zeitschrift fuer Geburtshuelfe und Gynaekologie* (1913, LXXIV, 68), writes that the decrease in the birth rate in Germany in the past forty years has been about 1 percent. He says that the infant mortality during the same time has decreased to about the same percent, or 20,000 infants per year have been saved. In view of these facts, alarm as to decrease in population would seem to be misplaced. No good to any country can result from its women giving birth to 20,000 infants per year to die in infancy. The infant mortality is still too high, and with proper attention to infant feeding and proper conditions of work, housing, and hygiene for mothers, and proper instruction, it could probably for many years be reduced sufficiently to more than compensate for the decreasing birth rate.

Bethlehem Hospital, London, was built in the thirteenth century. Later it became an insane asylum, and the name was contracted to Bedlam. It still is conducted as an asylum. That's where Roosevelt got his phrase, "an outpatient of Bedlam." The name has become a synonym for disorder and chaos.

MONEY SPENT ON HOSPITALS IS FOR CURE OF PATIENTS.[1]

Follow-Up System the Only Way to Determine Value of Institution's Services—Accounts Must Include Death and Disability, Which Are Wasted Effort.

By E. A. CODMAN, M. D., Boston, Mass.

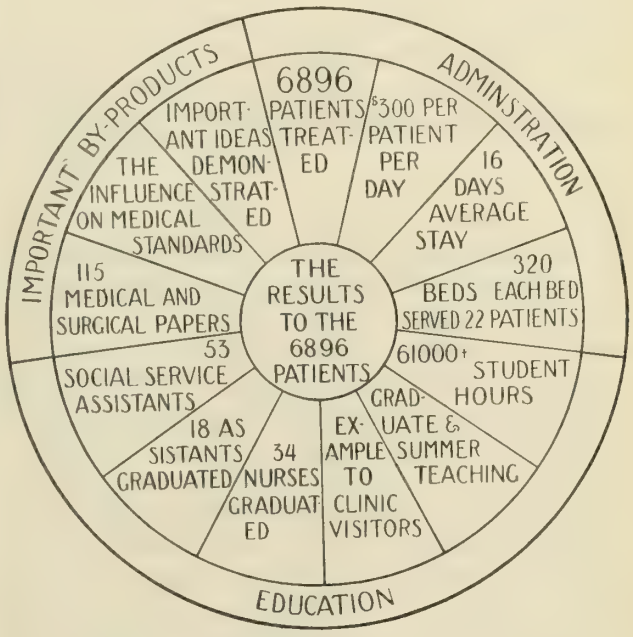
THE central idea is that every product of a hospital is to a greater or less extent dependent on the result of the treatment to the individual patient. On your annual reports to your trustees you state with pride the number of patients you have treated. What you should take pride in is the high percentage of patients benefited. If your staff by their inefficient treatment of their cases benefit only 80 percent when they should have benefited 90 percent, the loss in efficiency is worse than if you wasted 10 percent of the hospital income by neglecting to purchase potatoes at a reasonable figure. And, yet, most hospitals make no effort to find out whether success has attended their treatment.

Another thing that you state in your annual reports is the cost per patient per day. Please realize, after you have carefully figured it out, that in order to obtain its real value it must be multiplied by 100 and then divided by the percentage of patients benefited. That is, if out of every three patients one was not benefited, your cost per patient would be $4.50 per day instead of $3.

Did you ever add up the number of days that your staff wasted by being too busy to examine the cases on the first day of admission? Did it ever occur to you, superintendents of the hospitals, that you could afford to pay a good surgeon a good salary from this one extravagance alone?

Again, you speak of the average stay as sixteen days in the hospital. Take a hernia, for example. Is it economy to keep him one week or three? If your surgeons' aseptic technic is perfect, you can save thousands of dollars by discharging your clean cases in one week instead of three, but, if your technic is imperfect and you are getting septic wounds in 10 percent of your hernia cases, you lose money not only in proportion to your failure to obtain ultimate cure, but you are docked $3 a day in all the clean cases you keep in unnecessarily long, and also $3 a day for all cases prolonged by sepsis. Thus the aseptic technic of a large hospital is important enough for you to employ an expert bacteriologist to constantly follow it.

How many patients per bed do you annually treat? If your hospital is for chronic cases, the number is small; if it is for acute cases, it is large. What is the cost of a thigh fracture? In this hospital, I suppose, thigh fractures are usually kept in bed about six weeks. At $3 per day, that would be $126. Would it not pay us to encourage some ingenious young man to invent an ambulatory apparatus for these cases and attend them at their homes? The hospital could probably afford to pay him $1,200 a year to do this. As a matter of fact, such is the enthusiasm of youth, you could probably find some one to do it for nothing.



Products of the Massachusetts General Hospital, 1912.

Did you ever calculate what a case of chronic osteomyelitis costs you? I can show you records of cases here which cost hundreds and hundreds of dollars because they were inefficiently treated in the first place.

These instances may be multiplied by the dozen. Each disease has its negative value; it costs more to cure some than it does others. In our modern hospitals you will find the senior surgeons treating the easy ones, and the difficult ones handed lower and lower down.

The truth is that the system of asking the services of busy practitioners for nothing has almost outlived its usefulness. It is time that hospitals drove harder bargains with their staffs.

[1]From a discussion of a paper on "Proposed Inspection and Standardization of Hospitals," read before the American Hospital Association at Boston, August 27, 1913.

The hospital position is necessary to the surgeon of today, and the hospital can demand of him more and more. Either he must be *made* to painstakingly treat the "lemons," or someone must be hired to treat them. They cost us too much under the present system.

You hospital superintendents are too easy. You work hard and faithfully reducing your expenses here and there—a half cent per pound on potatoes or floor polish. And you let the members of the staff throw away money by producing waste products in the forms of unnecessary deaths, ill-judged operations, and careless diagnoses, not to mention pseudo-scientific professional advertisements.

I hope that this association you have formed will give you strength and courage to speak up to your returning trustees as they come back, brown and good-natured, from seashore and mountains. Tell them that they are spending the money that is intrusted to them for a product which they give to the poor, and that it is just as much their duty to see that this product is sound and good as if it were a marketable article which they sell to the rich. Tell them that hospital trustees who do not examine into results to their patients do not audit their accounts. They should no more be allowed to give away death and disability to their patients than to sell worthless stock certificates.

Establish a follow-up system. Recommend efficiency committees of three—one representative from the staff, one representative from the administration, one representative from the trustees—to whom you can pour out your woes. Don't be afraid—the right is on your side.

EVOLUTION OF POLICY CONCERNING TUBERCULOSIS HOSPITALS.

Massachusetts Has Not Yet Solved the Problem of Who Shall Build and Operate These Institutions—Is It the Duty of the State?

By JOHN H. GIFFORD, M. D., Fall River, Mass.

TO Massachusetts belongs the credit of having built the first state hospital for the care of cases of pulmonary tuberculosis, and was intended for incipient cases. It was located at Rutland and was completed in 1898. The hospital was the result of the expression of professional and public enthusiasm over the recently realized possibilities for the cure and for the arrest of the disease in its early stages, and was intended and it has always served as a great object lesson to the citizens of the state. It was a lesson of hope so greatly needed in a situation steeped before in almost universal despair, but was, however, an attempt to save those who could most easily be saved. It was the first step, perhaps the only step then possible, but it did not go far toward the state-wide control or suppression of the disease, being concerned with case cures and was "heedless of far gain."

Later it began to be realized that the advanced cases were a greater burden and a greater menace to the state, and the conclusion was reached that in the proper care of these cases the safety and welfare of the community would be most largely secured. It was felt that for many such patients in the families of the poor and of those made poor by the disease this proper care could be assured only in an adequate hospital. Accordingly, stimulated by the spirit of the anti-tuberculosis organizations all over the state and especially by the activity of members of the Massachusetts Medical Society, aroused and led by its public-spirited president, the late Dr. Arthur T. Cabot, the state authorized and built three additional hospitals for advanced cases. These were so located as to meet the demand of the different sections of the state, and have been in operation for four years. Before these were completed, however, there were waiting lists of patients beyond their capacity. Public sentiment has thus far in this state kept in advance of provision to meet its needs.

It has usually been necessary for cases of tuberculosis seeking state institutional care to wait several weeks before being admitted. This long waiting has been a serious disadvantage, especially in the advanced cases of the disease. Boston at one time maintained an institution specially devoted to caring for these cases who were on the waiting list for the state hospitals. This waiting, always a source of considerable dissatisfaction, has proven at least that the citizens of the state were fully aroused to see the necessity and the advantage of the hospital treatment of the disease.

The state of Massachusetts has, in addition, established at Rutland a state hospital for tubercular cases among its convicted criminals, and has built a large hospital at Tewkesbury for the care of tubercular patients among its dependent poor. In these five institutions the state has pro-

vided about a thousand beds for the care of people suffering from the disease. These represent an investment of over $1,000,000 and an annual outlay of over $500,000.

Now, the state of Massachusetts having gone thus far in this problem, having provided for its criminal class, having provided for its dependent class, and having economically built and equipped first a hospital for incipient cases and later three hospitals for advanced cases where the charge for maintenance should be practically diveded between the state and the patients themselves, or those responsible for them, what remained to be done? What was the logical *next* step? If the state had not already gone too far, was it not necessary that she should go still further? Was it fitting, having once put her hand to the plow, that she should now hesitate or turn back? The problem was a large one, but not larger than when she first entered upon it. It was not a larger problem for the state as a whole than for the state in its parts.

Instead, however, of accepting the situation as it had developed and going on to make adequate provision by further hospital construction where most needed, the state Legislature of 1911 passed a law requiring each city having a population of 10,000 or over to construct and maintain a local tuberculosis hospital, toward the support of which, after its approval, the state agreed to pay practically the same amount that it expends in the support of the state tuberculosis hospitals already built. The cost of building these hospitals equals the whole expense of maintenance for about one and one-half years, so that the state practically sacrificed the full control of these hospitals to this cost of construction, which represents the state's share of the maitnenance for three years. A feature of this law is that it gives no specification as to capacity, or location, or material, or equipment, or standard of management of such a hospital. It simply conditions the state support on the approval of the hospital by the State Board of Trustees of Tuberculosis Hospitals. As at present exercised, that approval seems to rest chiefly, if not entirely, on architectural construction and on physical surroundings.

When it is realized that hospital efficiency and success depend more on personality and on management than on structural refinements, that a hospital, like a home, may be good or bad, as its personal equations vary, it can hardly be conceded that looking over the grounds and buildings for an hour by a stranger from a distance furnishes a fair basis for appraisal of the work or worth of such an institution.

It would thus seem that the state of Massachusetts has not only thrown the construction of these additional hospitals onto the shoulders of every community in the state of over 10,000 population, whether rich or poor, purely residential or largely industrial, whether the local tax rate be $7 or $23 per thousand, whatever the other and possibly greater needs of some of these communities may be—it has not only unloaded this burden onto these forty-seven different communities of very various needs and of still more varying resources, but it has obligated itself to be responsible to the extent of $260 per bed per year toward the support of these hospitals without voice or control in the method, the economy of the efficiency of their management. It is as if a fond and not overwise parent should say to his children, "Children, I am very much interested in your future welfare, especially in your health. Now, in order that you may learn to depend on yourselves and not on me, I am going to insist that each of you build a house for himself; When it is done, I will call and look it over; if it is such a house as I like, I will agree to pay thereafter half the ordinary expense of maintaining such a house."

Now, the oldest and most successful of these forty-seven boys, Boston by name, strangely enough had such a house already built, and the father, being called upon immediately, began paying to Boston the agreed subsidy of support. Another son, New Bedford by name, soon had a house given him by interested friends, and he in like manner was adjudged worthy to receive the paternal support. A third son, Fall River by name, had been living in tents, and previous to the making of this proposition had moved into a new home built for another purpose in accordance with plans approved by the father's chief medical adviser. But, when the father's inspector visited the house, he found that it lacked sufficient piazza space, that the yard had not been put into proper condition, that the house was too much exposed to sea breezes. For some such reasons as these, which were never fully made public, the father has withheld his support for now nearly three years from this needy boy. Yet this same boy helps to support the institutions of Boston and of New Bedford and of a few others, while getting no help himself.

Now, strange to say, fond as all these forty-seven different boys are of having houses of their own to conform to the requirements of their beneficent parent, and needy as most of them are of his financial support, in the nearly three years that have elapsed since the proposition was made less than a quarter of them have been able to avail themselves of his benevolence.

Putting parable aside, it may be fair to inquire whether a proposition without time limit, but with a fine as penalty for noncompliance, which worked out in such a way as this, is fundamentally just and wise and well advised. Boston, representing about one-fifth of the population of the state, last year received two-thirds of the funds spent by the state under this act in local support, while she supplied in addition one-third of all cases (500 out of 1,500 in number) cared for in the state institutions for the tubercular.

The state of Massachusetts at least overestimated the effect that would be produced by this offer of the subsidy of support, and, most of all, it overestimated the rapidity with which results from this method might be expected. Proceedings have recently been entered against two cities of the state for failing to comply with this law.

It must be admitted that tuberculosis hospitals are a most important part of municipal health management, but it must also be granted that, locally considered, there are sometimes even more pressing problems and there are other methods of meeting the problem of tuberculosis, even more important for the time being, than a hospital for the advanced cases of the disease. In the city of Fall River, for example, the year after this law on local tuberculosis hospitals went into effect, 1,159 deaths (half the whole number of deaths, lacking one, for the year) occurred under two years of age, 994 of these under one year of age. The same year the number of deaths from tuberculosis was 152. Would it not seem that the more urgent problem for Fall River at least would be the day nurseries, the milk stations, the settlement houses, the district nursing association, the consideration of proper living conditions, proper housing conditions, proper working conditions? And yet Fall River, having constructed a modern hospital at a cost of over $100,000 for the care of infectious diseases, gave this over as soon as completed and in advance of the enactment of this law for the occupation of her tubercular patients. The hospital was thus in operation previous to the enactment of the state law requiring local hospital for tuberculosis, and thus fulfilled the spirit, if not the letter, of the law. It at present is ministering to the needs of 60 tubercular patints, the limit of its capacity, and yet by the vote and veto of a single examiner it has failed thus far to secure state approval and state support under the law. The cost to the city last year in the maintenance of this hospital was over $30,000, while the whole tax of the city last year for the care of tubercular cases was over $50,000. Has any other city in Massachusetts spent more in proportion to its population, not to say in proportion to its wealth? Yet this is not so much a question as to who has done most and who has done least as it is, who has done his best.

The problem which confronts Massachusetts at the present time is to coordinate all forces working in this crusade into one cooperating force, so that all may share alike in equal obligations, in equal advantages and results. No other state in the Union is so much alive to the importance of this matter; in no other state have such results been achieved in reduced morbidity and in reduced mortality.

Recess committees of the state Legislature for the years 1912 and 1913 have worked on this problem. The report of the last committee has yet to be made, and it is stated that two reports may be expected. Representatives of the anti-tuberculosis organizations of the state are soon to meet to discuss the situation. It is not unlikely that they may be able to agree on some form of legislation that will do away with present perplexing conditions, which will bring all the state into harmonious and effective cooperation in its continued campaign against the disease.

Report of the Boston Meeting Completed.

The book of the Fifteenth Annual Conference of the American Hospital Association at Boston was delivered to members of the association a few days ago. It is an imposing volume of 488 pages.

There is almost nothing left to be said of the Boston meeting of the association, of which this annual report is the permanent legacy and profit. The meeting was one of the most productive the association ever had. Live topics were discussed, and many of the most experienced hospital authorities of the day participated. Many new names were added to the list of those who might be expected to contribute to the world's knowledge of hospital problems. Many new men and women did contribute to our already rapidly growing store of experience, and to this extent this year's annual book is a valuable contribution in itself.

The new secretary, Dr. H. A. Boyce, did his work of getting out the report in a most careful manner. It is a nice looking volume.

But, most of all, it is to be said of this year's report that it should be a reference on the desk of every hospital worker in the land. There is that in its many fruitful pages that should help over the hard places, give new inspiration, new ideas, and new ideals.

St. Basil built a hospital at Cæsarea in Cappadocia in the year A. D. 369. A brother of St. Gregory of Nazianus, who was a physician, worked in it. It seems, from the writings of St. Gregory, about whose interesting account there seems to be no dispute, the hospital was a small city, with streets running through to separate the buildings for various classes of disease. There were also buildings for workshops and industrial schools; there were also homes for convalescents, residences for physicians and nurses, and great store houses where food could be stored against times of famine and war. Is there anything new under the sun?

SURGICAL DRESSINGS, THEIR PREPARATION AND METHOD OF DISTRIBUTION.

Contents of Laparotomy Drums Must Be Recounted Before and After—Carefully Directed Pupil Nurses Competent to Prepare Material—Certain Dressings Recleaned—Care of Gloves and Other Materials.

By MISS ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICH.

PAPER III.

IN the average small hospital the entire responsibility for surgical dressings as to their preparation, sterilization, and distribution must be placed in the hands of the surgical supervisor, who is, as a rule, the only graduate nurse employed by the hospital for this entire department.

This supervising nurse is responsible not only for the correct surgical technic and administration of the operating rooms, but also for the teaching and training of pupil nurses as assistants. In addition to this she has also the responsibility for the preparation of surgical material and dressings for the whole institution. As a result many duties which in a large hospital would of necessity be placed in the hands of the graduate nurse are intrusted in the smaller hospital to the pupil nurses in their last year of training. Nor must this be considered as a disadvantage, but rather as a great advantage, to the pupil nurse herself, who must necessarily be trained from the day of her entrance with the special view of preparing her to assume such responsibilities. In the well-organized small training school the nurses vie with each other in trying to prove their fitness to take these advanced responsibilities, and are filled with a sense of pride when intrusted with such work.

PREPARATION OF DRESSINGS.

All surgical dressings used in our institution are prepared under the supervision of the surgical nurse. She has at all times one third-year pupil nurse in the operating room as her assistant. Each nurse receives from ten to twelve weeks of this special training.

During operations a second nurse is sent to the operating room to assist, and our usual plan is to use as assistant the nurse who is next due to have her operating room service. In this way she becomes gradually accustomed to the work of the operating room and somewhat familiar with the methods followed by the various surgeons.

We have, in connection with our operating room, a nurses' work room, which is used for the preparation of dressings. Across one entire side of this room are special closets, arranged in several separate sections, in which these surgical supplies are kept.

It is realized that every hospital has its own method of preparing and packaging dressings, which must vary according to the demands of the surgeons and their individual preferences. The dressings used most commonly in our operating room and wards are:

1. Flat Sponges.—Twelve flat sponges 4½ inches square, folded so that all raw edges are turned inside.

2. Laparotomy Sponges.—Made in four sizes—12 inches square, 8 inches square, 6x12 inches, and 4x7 inches. Each sponge is eight layers thick, made with all raw edges turned in and edges overcast. The sponges are stitched across and each has a 12-inch tape attached. These are the only sponges used after the peritoneum is opened. Ten are folded in each package.

3. Packing Gauze.—Flat-folded gauze, with all edges turned in. Made in varying widths from ½ inch to 2½ inches, and cut in 6-yard lengths. This is packed in test tubes or screw-cap glass jars.

4. Yard Rolls.—Gauze, full width, folded eight times, cut into yard lengths, and rolled tightly, six rolls in each package.

5. Five-yard Packs.—Full width gauze folded into quarters and rolled in 5-yard length. One only in each package.

6. Four Gauze.—Full width gauze folded into eighths and cut in half-yard lengths. These are folded so they resemble a heavy sponge, and are used for nearly all ward dressings. Four pieces in each package.

7. Combination Dressings.—One thin layer absorbent cotton 14x10 inches and one layer of non-absorbent cotton folded into gauze square, two in each package.

8. Dressing Sponges.—Small twisted gauze sponges for use in ward dressings, twelve in each package.

9. Sponge Cotton.—Absorbent cotton in rolls 3 inches wide by one-half yard long, used for sponging.

These dressings are done up in covers of unbleached muslin, which are from 16 inches to 18 inches square, marked plainly and sterilized.

Laparotomy sponges are always counted twice

before the package is closed. The surgical supervisor and sponge nurse always count every package of sponges again as they are opened for use at an operation, so that every package of laparotomy sponges is counted four times before use. All sponges used for pus cases are destroyed. The others are washed, soaked in a disinfectant solution, and boiled for an hour, after which they are packaged and used again.

The bandage materials most commonly called for are gauze or muslin in assorted widths, plaster bandages in assorted widths, lint or sheet wadding, flannel, and net bandages for head or eye work.

In preparing bandages for ordinary ward use, we use the yard-wide gauze rolls 6 yards long. These are extremely convenient, as they can be cut into required widths as needed. In operating room work we use the gauze or muslin bandages, which we buy by the pound.

In the preparation of plaster bandages we use the unbarred crinoline and dental plaster, which hardens rapidly, forming the best kind of a cast. Under plaster casts either bandages of lint, or sheet wadding, or woven webbing are used, according to the preference of the surgeon.

A material which we use considerably in head or eye work is white unbarred mosquito net. This material is cut into the desired width and length and rolled tightly. Before applying, the bandage is wrung quickly out of warm water. It dries rapidly, and, being full of a sticky starch, forms a nicely molded, comfortable bandage, which is difficult to displace even in conditions of great restlessness.

Another substance used frequently for minor fracture cases is a liquid-starch splint material. This substance is painted heavily over a thick firmly applied bandage. It hardens rapidly and forms an extremely strong but very light cast.

Other materials called for and kept ready for use at all times are: guttapercha or rubber tissue; rubber gloves; oil muslin and paraffin paper; rubber tubing, rubber dam, or gauze drains; iodoform and aristol gauze packing.

Our stock of surgical dressings intended for ward use is kept entirely apart from that prepared for use in the operating room.

It would be difficult for the surgical nurses to keep up a full stick of supplies at times when the operating room service is unusually heavy. In order to provide against any shortage, the night superintendent has surgical dressings made by any of the night nurses having a light service. This constitutes a reserve stock, which is kept in a separate store room, and given out only when necessary. Also, at times when the hospital is light, a number of younger nurses or probationers are sent to the operating room to make up dressings under the direction of the surgical supervisor. The instruction received at such times is most valuable to the junior nurses, and helps them later in their operating room service.

In the preparation of surgical dressings we use two grades of gauze. A small amount of rather fine material is used for certain dressings, sponges, and bandages, but the larger amount is of the coarser gauze, about 16x20 mesh. We contract each year for the amount required, having one-half the amount shipped to us each six months. In ordering this way, we can deal directly with the manufacturers, and thus buy more economically. The same method is followed in the purchase of cotton, which we also buy in two grades—a small amount of very fine cotton, used for special operating room work, eye cases, etc., but a much cheaper quality answering the purpose for pads and ward dressings.

For use in our obstetrical department we find it cheaper, if the time of the nurse is taken into consideration, to purchase the sanitary pads rather than have them made. These pads come in great gross lots tied up in bundles of one dozen each, and have only to be folded into packages of the required number and sterilized.

All the surgical supplies, gowns, towels, etc., used in our obstetrical department are prepared in the operating room under the supervision of the surgical nurse. For special convenience in this work, we have what we call an obstetrical package, in which is packed every sterilized article needed in our case room for the delivery of one patient, from the gowns of the doctor and nurse to the dressing for the umbilical cord, each article being also in its own separate wrapper. A great deal of time is saved in preparing for a case by this convenient plan. At least two of these packages are always kept in the case room ready for use, beside extra sheets, gowns, towels, etc.

Probably many small hospitals experience the same difficulty that we had for some time because of the large amount of sterilized goods required in the hospital, and the fact that the only sterilizer provided is a moderate-sized one in the operating room. As a consequence it takes a great deal of valuable time to sterilize goods several times daily. We did not desire to purchase any additional sterilizing equipment until we should build our anticipated new obstetrical pavilion, and therefore decided to move our large mattress sterilizer into a convenient corner of the locker room in our basement. Each day the larger part of articles to be sterilized are taken down from

the operating room and sterilized there. For large packages, like our obstetrical bundles, it is a great convenience, and the work of sterilization is done in about one-fifth of the time formerly required.

DISTRIBUTION OF DRESSING MATERIAL.

The process of requisition and distribution of ward dressings is as follows: Every evening before 6 o'clock the head nurse of each ward sends a requisition slip to the office of the assistant superintendent with a list of surgical dressing material required, including towels, for the next twenty-four hours. If any of these supplies are needed for the night nurse because of any unexpected emergency, that fact is plainly stated.

The assistant superintendent looks over these slips carefully, and, if she considers them correct, signs them and sends them at once to the surgical supervisor. Any goods needed for the night are sent by her immediately to the ward. The remainder is sorted out and left ready for distribution the first thing the following morning, when each head nurse sends to the operating room for her supplies, returning at this time all outside covers from sterilized dressings and any opened packages of dressings which cannot be considered sterile.

By having these surgical requisitions pass through the hands of the assistant superintendent we have a check on the amount of dressings ordered. If she finds any nurse calling for more material than would appear necessary, she sends for her and gives her an opportunity to explain the reason for her apparent extravagance. It must be said, however, that as a rule these requisitions are made out carefully and call for little change. The nurses are impressed from the first with the necessity of economy in the use of dressing material and the importance of most careful handling of sterilized goods.

The nurses in the surgical wards are also taught to have two surgical trays set up ready for use at any time, with all the articles needed for an ordinary dressing. One of these trays is for clean cases, the other for pus dressings. This saves considerable time when needed unexpectedly or at night, when only one nurse is on the floor.

When doing abdominal dressings, the outside cotton or combination dressing is frequently used several times if perfectly clean.

In the wards all dressings from clean cases are saved in special bags of ticking provided for that purpose and sent to the laundry to be washed. These bags, with their contents, are removed every other day by the laundress and fresh ones hung in their place. The gauze is taken to the laundry and soaked in a disinfectant solution for three hours, after which it is washed, boiled, and returned to the operating room. Here the nurses sort it over, preserving all that can be again used for dressings, and place the remainder in a bag to be made up into soft absorbent pads for drainage cases and other similar purposes.

RUBBER GLOVES.

Until two years ago all gloves used in this hospital were furnished to the surgeons free of charge. It was found, however, that this one item of expense was assuming such undue proportions that it was decided to request the doctors to pay for or provide their own gloves, which they now do.

Generally speaking, our surgeons leave the matter of gloves entirely in the hands of our surgical supervisor. The hospital keeps on hand a stock of gloves of good quality, furnishing them when required to the doctors at cost. By this arrangement the surgeon has the advantage of knowing that his gloves will always be ready and properly cared for. The gloves are sterilized, mended, and looked after in the same careful manner as when furnished by the hospital.

When any surgeon needs new gloves the surgical nurse notifies him to that effect, and he is furnished with half a dozen new pair. A few pairs of standard sizes are always kept prepared in reserve in case of emergencies. The gloves used by interns and nurses are, of course, furnished by the hospital.

Our gloves are sterilized by steam, fifteen pounds pressure, for thirty minutes. After pus cases all gloves are boiled, and also after such cases the surgeon removes his gloves in a basin of 1/1000 bichlorid solution, where they remain until the nurse has time to remove and cleanse them.

In preparing gloves for sterilization we place in each package a small folded square of gauze containing sterilized starch or talcum powder to dust on the hands of the surgeon before applying.

General Torney's Hospital Work.

Brigadier-General George Henry Torney, late surgeon-general United States Army, whose death occurred in Washington on December 28th, was an ardent advocate of well-equipped and well-managed hospitals. Many hospitals were erected under his direction. At the time of the San Francisco earthquake General Torney, then commandant of the Letterman General Hospital, opened its doors to the public and cared for the refugees. He practically built the Army and Navy General Hospital at Hot Springs, Arkansas. To his efforts is largely due the building of the Walter Reed General Hospital at the nation's capital. At the outbreak of the Spanish-American War he fitted out and commanded the hospital ship Relief.

RECORD KEEPING AT THE MASSACHUSETTS GENERAL HOSPITAL.[1]

System Built Up On Ninety Years' Experience Provides for Present Use and Future Reference—Accuracy, Neatness and Completeness Are Required.

By BYAM HOLLINGS, M. D.
ASSISTANT ADMINISTRATOR MASSACHUSETTS GENERAL HOSPITAL.

THE records at the Massachusetts General Hospital which concern patients are separated into two main divisions—the out-patient records and the hospital histories. These two divisions are in charge of a record clerk and her assistants in the out-patient department and the librarian and her assistants in the hospital.

In the out-patient department the 223,000 records are centralized in the record room. They are filed in drawers which contain sixty records each, and on each drawer is a card which indicates the range of numbers within. The histories themselves are of thin cardboard, 6 inches by 9¾ inches, and are placed lengthwise in a brown paper folder, the rear sheet of which extends slightly beyond the front, so that the history number, which is also printed on the inner side of the projecting brown leaf, is visible on opening the drawer. Besides this, to facilitate the work of locating the desired number, there are markers which separate the histories into groups of ten.

When the patient arrives for the first time he is given a blue linen card, on which is written his name, hospital number, and the department in which the admitting physician in the out-patient department considers he should be treated. If the physician is unable to decide by questioning, he makes a brief examination in one of the adjacent examining rooms. The number is stamped on his history, and opposite the printed words is typewritten his full name (no initials are permitted), address, occupation, birthplace, race, and whether married, single, or widowed. This blank history card is sent by a small hand elevator and thence by messenger to the department indicated. The patient, after some guiding, reaches that department which he may have discovered is printed on the blue linen card in his pocket or hand, and the student or house officer proceeds to ascertain and enter on the history card the facts concerning the patient's occupation, family tendencies, past history, and present illness. The urinalysis is also added in medical cases, and the patient appears in a single room ready for the visiting physician. The results of his examination and the medication given are noted on the history, and the diagnosis, which must fall within the limits of the prescribed nomenclature, which is posted in each clinic, is written at the bottom of the history in a separate space opposite the word "diagnosis."

If a final diagnosis is impossible, a preliminary diagnosis must be written in a space designated for that purpose. At each subsequent visit of the patient a date is stamped on a separate line, and the course of the day's examination and treatment is noted. If the patient is sent to another department for consultation or is referred for an opinion, the record is stamped to that effect and sent to the other division. The report of the physician consulted is placed after the stamped inquiry. If the patient is transferred to another department, the whole history is redirected to that department, so that thereafter it comes directly to that last medical division whenever the patient visits the out-patient department.

At the end of each clinic day the histories are collected, sent to the record room, and filed. Each of the old histories is replaced in its folder, which is removed from the drawer at the time the history is taken out. Each new history is placed in a folder, which is numbered to correspond to the history. In addition, two small cards are made out for each new patient. One, with the name—as Woods, James Herbert—with the address, age, out-patient number, and diagnosis, is placed in the name catalogue. The other small card, headed "Pleurisy" and followed by the name, age, address, and out-patient number, is placed in the diagnosis catalogue. When James Woods calls for treatment, his number is sent to the record room, and the history is located directly by that number, and sent to the department indicated. By means of the diagnosis catalogue the investigator interested in groups of cases may find these cards assembled and be able to locate the histories, and the teacher in the same has his material easily accessible.

The social service records in the out-patient department are retained in that department, but there is evidence on the patient's history in the record room that there is full sociological record also on the cases when an investigation has been requested by the physician. The value of these records is considerable, as the physician is enabled to visualize the home surroundings of the patient and the treatment is directed accordingly. If the treatment seems unsuccessful on account of the patient's ignorance, carelessness, or lack of

[1]Paper read before the American Hospital Association, Section on Large Hospitals, Boston, August 27, 1913.

money for absolute necessities, the report of the social worker reaches the real reason and results may then be obtained. In consequence of thorough social work, there is less waste effort on the part of the physicians and less waste of hospital facilities because the cases are followed until results are accomplished.

By this simple system, in the out-patient department, of the history card, the name and diagnosis catalogues—each distinct, but filed in one central place—and the sociological record we have a method by which the records are quickly obtained, are accessible to the authorized investigator, and are safe from loss or mutilation. The patient does not at any time handle his own record, and no one outside the medical staff of the hospital is allowed to see the records. If a record is temporarily loaned within the hospital, the borrower signs for it, so that it may be traced. The record room librarian reports to the out-patient superintendent the histories that are unsatisfactory from lack of diagnosis or other necessary information, and these omissions are corrected by the department responsible.

In the main hospital are collected in some 1,730 volumes all the records from the time that records were first taken at the Massachusetts General Hospital. Not a record is missing for this period of about ninety years.

When the patient applies for admission to the wards, the admitting physician in the main hospital fills out a slip on which appears the following headings: date of admission, ward, service (medical or surgical), name in full (initials are not allowed), residence (in full), age, color, married, single, or widowed, full address of a relative, name and full address of a friend; also the name and full address of the patient's own physician. This slip is copied by a carbon sheet onto a similar sheet. One of these goes with the patient by messenger to the ward and is known as the "nurse's slip," the other remains in the office and the data thereon is transferred to a large book and extends across two pages on one continuous line. At the same time this slip and this line are stamped with the same number. This is the patient's hospital number. The information on the slips made out by the admitting physician is gathered with care, and the slip is marked "correct." The word "correct" permits the nurse in the ward to use that data for the head of her chart sheet. If, owing to the fact that patients

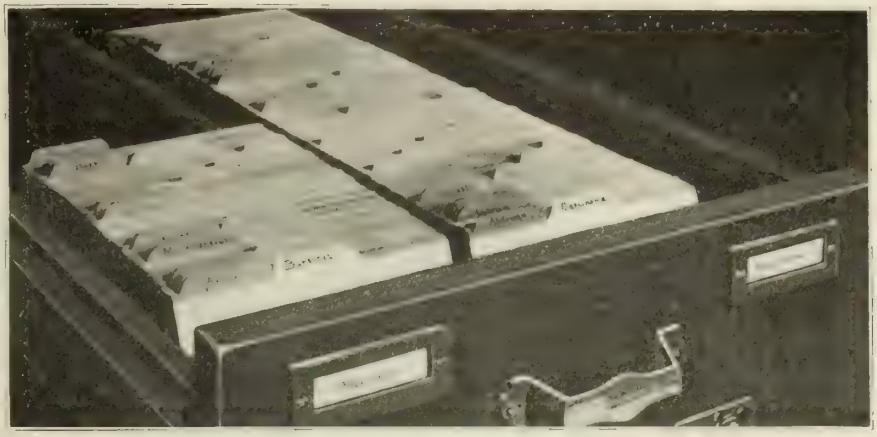


Fig. 1. Surgical card catalogue grouped by diagnoses.

Fig. 2. Surgical card catalogue grouped by anatomical regions.

may be admitted by others less careful than the admitting physician, there are slips without the word "correct," the nurse may not use any of that data for the chart sheet until the clerk has questioned the patient or his friends carefully, remedied any errors, and stamped the slip "correct." This seems perhaps an elaborate procedure, but its value has been amply justified, by the results in tracing cases after leaving the hospital and in locating the records for court use, for physicians and for teaching purposes.

Each day the custodian of the records inspects the charts of the patients discharged on the previous day and compares the data thereon with the data which has been marked correct on the "nurse's slip" which is attached. Each Monday the surgical records. The surgical history shows the number of the medical record, so that the one record may easily be consulted in connection with the other if so desired.

At the end of a year a letter is sent to all surgical patients, except those who die in the hospital, requesting them to return to the hospital for an examination. If they are unable to return, they are requested to describe their condition, and certain leading questions are asked. In this way the end results may be added to the surgical histories, already filed, and the patient is also benefited by the advice given at the time of examination.

The method of cataloguing these 1,730 volumes in the main hospital is of value, as it has been

INDEX by DATE and HALF

Date	Name	Page	Diagnosis
Aug. 1	Morgan, Emma	1	Anemia, pernicious Pregnancy
" 2	Tackeff Bertha	7	Aortic & mitral stenosis Aortic & mitral regurgitation
" 3	Roseli, Mary T	13	Polyarthritis (rheumatic)
" 8	Bianchi, Luisa G	17	Abdominal pain (cause?) Mitral regurgitation
" 11	Molloy, Sarah A	23	Arthritis, infectious Pericarditis, acute
" 11	Larson, Ellen S	29	Mitral regurgitation
" 11	Carter, Annie B	35	Infection, acute (influenza?)
" 13	Williams, Mary T	39	Phthisis, subacute
" 15	Blackmore, Ellen M	43	Sclerosis, multiple
" 15	Van Wyke, Etta E.	47	Cholelithiasis Cholecystitis
" 16	Skinner, Ferebbe G	53	Typhoid fever
" 16	Goldberg Ida G	59	Colon infection
" 16	Lupen, Sarah	63	Status lymphaticus
16	Blundell Lillian G.	67	Eclampsia
" 17	Carlo, Julia	73	Infection, acute (influenza?) Chorea, infectious Endocarditis
" 17	Zimmerman, Elizabeth	77	Mitral regurgitation
" 18	Gauthier Roseanna	81	Mitral stenosis & regurgitation
" 18	King, Martha J	87	Phthisis
" 18	Marsh, Annie E	93	Phthisis
" 19	McDonough Mary	99	Polyarthritis, acute infectious
" 20	Gargtos, Mary	103	Empyema
" 22	Rosenberg, Annie	107	Abscess, peritonsillar
" 22	Godinsky, Rose	111	Pneumonia, lobar
" 23	Darling, Inez E.	117	Anemia, secondary, Malaria tertian

Physician	Discharged	Condition	Remarks
F. C. S	Aug 22, 1910	Relieved	To O.P.D.
F C S	" 15 "	Relieved	
F. C. S	" 13 "	Much relieved	To O.P.D
F. C. S	" 15 "	Untreated	
F. C. S.	" 25 "	Relieved	To O.P.D.
F C. S.	Sept 3 "	Well	To Waverley
F C. S	Aug 8 "	Well	
F. C. S	" 17 "	Untreated	To O.P.D.
F. C. S.	" 18 "	Untreated	To O.P.D.
F. C. S	" 23 "		Tr. to South Surg
F. C. S	Oct. 16 "	Well	To O.P.D.
F. C. S	Sept 20 "	Well	To O.P.D.
F. C. S	Aug 16 "	Dead	Aut. #2658
F. C. S	" 17	Dead	Aut. #2660
F. C. S	" 20 "	Relieved	To O.P.D.
F C. S	Sept 1 "	Well	To O.P.D.
F. C. S.	" 10 "	Untreated	
F. C. S	Aug 22 "	Relieved	To O.P.D
F. C. S.	" 30 "	Not relieved	To O.P.D
F. C. S	Sept 5 "	Well	
F C S	Aug 21		Tr. to South Surg
F C S	" 25 "	Much relieved	To O.P.D.
F C. S	" 27	Dead	No Autopsy
F C. S	Sept 13 "	Well	To Waverley

Fig. 3. Part of index page of bound volume of medical histories.

the charts and histories of the patients discharged during the previous week are received and inspected for completeness, accuracy, and neatness. The chart sheet indicates under appropriate headings whether the patient has an out-patient history, and whether there are any other hospital records on the same case, and, if so, the numbers are given whereby these records may be located.

Frequently it happens that a patient enters a medical service and is transferred to a surgical service after consultation. In such a case the medical history ceases at the time the patient leaves the medical ward and a surgical history along the same lines is begun in the surgical ward. The medical history is eventually bound among the medical volumes, with a reference to the number of the surgical history, which is also on file in

found that under this system the patient's record can be presented in from one to three minutes.

The pivot of the system is a white card 5 inches by 8 inches. This has the admission data and is headed by the patient's full name. The size of the card allows for the additional headings of preoperative diagnosis and postoperative diagnosis, anesthetic, important points in the operation, and complications of the convalescence. For a medical case there is a similar card, with appropriate headings, such as preliminary diagnosis, final diagnosis and complications, object of coming to the hospital, and condition at time of discharge. In other words, a minature history is presented as soon as the patient's name is located, and the complete bound history is indicated by a number on the card.

In addition to the name catalogue there are three card catalogues, two of which are for surgical cases and one for medical. The surgical cards are made out in duplicate. One card is filed in the catalogue of diagnosis and the other is filed in the catalogue of anatomical regions. For example, the record of a patient suffering from ankylosis of the knee would be filed under the anatomical region of "knee" and the subheading of "ankylosis." It would also be filed in the diagnosis catalogue under the main heading of "ankylosis" and the subheading of "knee." The medical cards are, in general, grouped by the diagnosis, as, for example, under "diseases of the arteries" will be found the subheadings of aneurism, aortitis, arteriosclerosis, dilatation, embolism, endarteritis, etc. The diseases of the main organs of the body, however, are grouped under the headings of the organ affected.

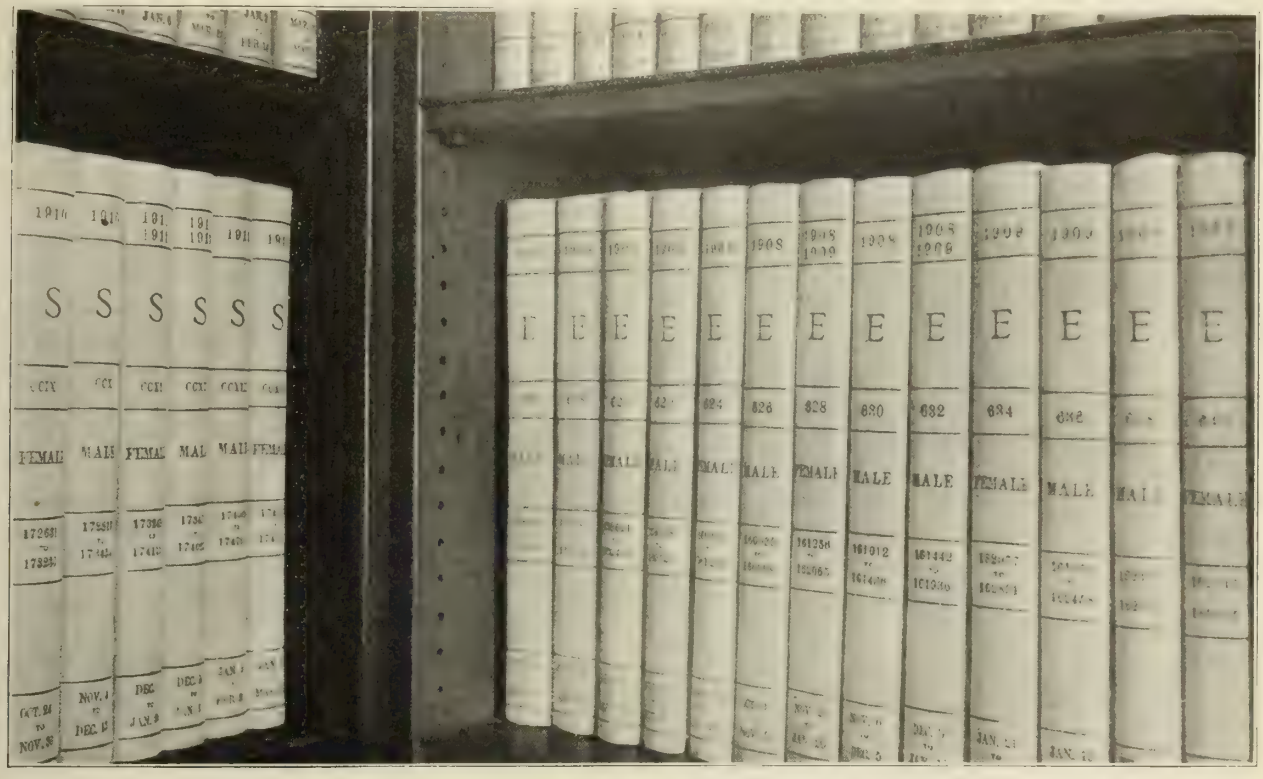


Fig. 4. Bound volumes of patients' histories.

In summarizing briefly we may notice these points:

(A) In the out-patient department:

1. The records are centralized, and are in charge of a record clerk and four assistants.

2. The patient does not touch his history, neither does any one not intimately connected with the institution.

3. The social service record reinforces the medical record when investigation is requested.

4. The admitting physician in the out-patient department reviews the records, and requires the correction of omissions by the department responsible.

(B) In the hospital:

1. The histories are centralized, and are under the care of a librarian and her five assistants.

2. Four card catalogues.

(a) One in which all the hospital cases are filed alphabetically by name, on which is a minature history.

(b) Two surgical catalogues—one anatomical, one with diagnosis. Each surgical case is filed by the anatomical region affected and by the diagnosis made.

(c) One medical, in which affections of the main organs of the body are grouped. Cases are filed by the diagnosis under those organs, and all others by their diagnosis.

3. Great care is taken to obtain absolutely correct information concerning the patient's full name, correct address, and names and addresses of friends.

4. The charts are inspected on the day following discharge for accuracy, neatness, and completeness. Histories of patients discharged are inspected each Monday.

5. The catalogue cards, when ready to file, are inspected by the librarian.

6. No one, with the exception of the hospital staff and house officers, is permitted to see the records. An abstract or copy may be given under proper circumstances. The records, when summoned to court, are held in the possession of a hospital representative.

7. After one year all surgical patients are asked to return for examination, and a catalogue is kept of the results of these examinations.

This "end result" catalogue requires the entire time of one clerk.

QUALIFICATIONS OF THE MODERN HOSPITAL SUPERINTENDENT.

If Not a Medical Man, He Should Have Knowledge of Medical Subjects—Should Be Undisputed Head of Every Department of the Institution.

By A. B. TIPPING,
SUPERINTENDENT OF TOURO INFIRMARY, NEW ORLEANS.

IT is not so long ago that many hospital superintendents were selected who had no particular training or aptitude for the work. It was a means of earning a livelihood, and those who had the most influential supporters were given the appointment. Today a certain number of appointments are more or less in the hands of political powers, and some men are installed in office, not because they have an intimate knowledge of the work, but rather as a reward for services rendered in other directions. Fortunately it is gradually being conceded that "politics" has no place in an institution for the care of the sick, and boards of trustees are seeking men whose knowledge of the work will insure the maximum of efficiency. The necessary qualifications of a hospital superintendent are numerous and varied. If he is not a doctor, he must have at least sufficient knowledge of medicine and medical ethics to enable him to intelligently understand the requirements of the medical staff, and to cope with the various questions which are bound to be brought before him for decision. He must be conversant with the requirements and necessary equipment of each department in a hospital. It is imperative that he be a hygienic expert. He should be tactful, a good disciplinarian, a practical organizer, an apt student of human nature, and a person of sound judgment with keen insight. He is required to make contracts for supplies and supervise the purchasing of everything needed for the hospital, and then see, so far as possible, that for every dollar expended one dollar's worth is legitimately used. He should understand something about mechanics, electricity, and heating, cooling, and ventilating systems. If a new building is required or structural changes are necessary, it should be to the hospital superintendent that the architect would look for the requirements and rough plans after the superintendent has carefully ascertained exactly what is wanted by consultations with the trustees or managers of the institution and with the medical staff.

It is not sufficient that he should be content merely to continue the work which his predecessor did. It is his duty to endeavor to keep the hospital abreast of the times and strive to increase its efficiency. Every week some new apparatus, appliance or instrument is placed on the market—some of value only in the mind of the inventor, others beneficial to doctors and patients. These should be carefully studied, as well as the literature dealing with hospital matters, as many extremely useful articles are appearing in the various publications.

The board of managers or board of trustees of a hospital, having once selected a superintendent whom they consider to be an expert in his profession, would do well to leave him untrammeled with too many committees or too much red tape. He must be given large latitude in his work if he is expected to accept responsibility for the results at the end of a year. By "results" I mean that the patients have been taken better care of from a medical and hygienic standpoint; that the departments of the hospital have more than maintained their all-around efficiency, and that the medical staff and heads of departments are working in harmony and with loyalty. In some hospitals a superintendent must obtain the consent of a committee before he expends a sum in excess of, say, $100 for a certain requirement, although the total purchases by him during a month may amount to many thousands of dollars. It is quite right that a finance committee should keep in touch with the finances of the hospital, but, if anything is needed in the opinion of the superintendent, he should have the necessary authority to purchase it without having to wait possibly three or four weeks for the committee to assemble.

A superintendent should make it his duty to keep the board informed of everything of impor-

tance that occurs or may arise from time to time, and obtain authority from his board before making radical changes or heavy additional expenditures, and the managers in turn must place full confidence in him, or obtain another in whom every trust can be imposed.

The superintendent must, of necessity, watch the finances of the institution, and be guided by the bank balance when he considers the purchase of anything which may not be absolutely essential. Hospitals with plenty of funds at their disposal can afford to experiment, as it were, with new and more or less expensive ideas and suggestions, but those of limited income must be content to purchase the essentials and experiment only to a lesser degree.

A board of trustees which studies the per-capita cost of patients with the idea of judging the merits of their superintendent are following the wrong trail. He can very easily issue instructions to his steward or purchasing agent to purchase a cheaper grade of meat and groceries, and purchase cotton waste instead of a good grade of absorbent cotton, and so forth, which would quickly lower the per-capita cost, but he would not be performing his first duty, which is to study the interests of the patients. A hospital cannot be made a dollar-and-cent proposition. Medical science has advanced and is advancing in very rapid strides. The superintendent of a hospital must keep advised of its progress, report to his board, and, whenever necessary to the welfare of patients, the board of managers must seriously consider the oftentimes additional needs as a result of this advance. And when the end of the year comes around they must judge the superintendent by the success the hospital has attained from a medical standpoint—not only by the balance sheet.

The superintendent should be held responsible to the board for every branch of the hospital work. He should be invited to attend the board meetings whenever details of management or contemplated changes, complaints or suggestions affecting the hospital are being discussed. His advice is oftentimes valuable. His good taste will prevent him from interfering in discussions when silence on his part would be more appropriate, and, if it were the desire of the board to discuss the merits or demerits of the superintendent, he should take no exception to being excused from the room. He, of necessity, must be more familiar with actual conditions and requirements than the members of the board, and can offer solutions to difficulties or suggestions which, if he were absent, might absorb the attention of the board an unnecessary length of time.

In almost every institution which has a regular medical staff a committee is appointed from among its number, consisting usually of five or more chiefs of services, to discusss the medical and scientific requirements of the hospital and to regulate the services. At these meetings the superintendent should be present and join in the discussions.

Some hospitals have a training school committee to which the superintendent of the training school reports and with whom she consults, and the committee then reports directly to the board. This system may have some good points, but it is very liable to disrupt the harmony which should exist between the superintendent of the hospital and the superintendent of the training school. The work of the training school is so closely interwoven with all the other work of the hospital that, unless there is unanimity of opinion and action and close cooperation, the efficiency of the hospital must necessarily be lessened.

In other words, the superintendent of a hospital, as its executive officer and administrator under the direction of the board of trustees, should be consulted by and have control over all its departments, and all matters to be placed before the board should first be referred to him for his consideration and opinion. There must be one head to every institution, and it is essential to the well-being of a hospital that he be accorded the hearty cooperation of those who participate in the fulfillment of the aims of the institution.

School for Study for the Insane.

An entirely new work has been instituted for patients in the Massillon (Ohio) State Hospital for the Insane. It is a school conducted like any children's school, and the 300 pupils, patients in the institution, are to study geography, reading, arithmetic, and other branches of the ordinary education just as though the sanity of the pupils had never been questioned.

Dr. H. C. Eyman, the superintendent of the hospital, declares that his first efforts have been crowned with greater success than he had even dared to hope. It is said that many of the patients enjoy the school work very much, and are able to carry the work of the classes with quite as much ability as normal people. The German so-called "object lesson method" is applied in mathematics.

As this was Dr. Eyman's pioneer experiment in teaching insane patients, he preferred to do most of the work personally, and up to this time he has conducted most of the classes. It is proposed, as soon as the experiment is demonstrated a permanent success, to build a school building in connection with the state hospital, with all of the accessories for teaching purposes.

The Lakeside Hospital, Cleveland, will have an interesting extension of sociological features in hospital administration. It will be the aim of the hospital to attend to the social needs of the patient, as well as to his medical illness. If it is dependent on social conditions, it will be studied and an effort made to correct them. The problem will be to cure and restore the patient to complete usefulness.—Ohio State Medical Journal.

SOME SALIENT POINTS IN THE CONSTRUCTION OF HOSPITALS.

Hospital Architecture Must Be Planned With Reference to Rules, But Not by Them—America Behind England in Orientation.

By F. B. MARTIN.
SURGEON GENERAL'S LIBRARY, WASHINGTON, D. C.

IN the construction today of a modern hospital the employment of a hospital expert is an obligation due worthy contributors to hospitals and the general public. The late Dr. John S. Billings, of Washington, was preeminently an expert in the building of hospitals, leaving a monument to his skill in the Johns Hopkins Hospital, of Baltimore, one of the most complete and perfect sets of buildings ever erected for hospital use.

An important feature is the character of site, which must be the first consideration. The building should be self-contained to prevent encroachment upon light and air. A question difficult to answer is to what extent do differences in climate make necessary or desirable corresponding differences in the plan or construction of a hospital? The habits and customs of different localities, differences in temperature, moisture, etc., make up what is called "climate." In hot climates shade and coolness are more desirable. A higher temperature is demanded in hospitals in the northern part of the United States than in England, as our climate is drier, and our citizens live in higher temperatures than is considered healthful by the English. Thick double walls inclosing nonconducting material are desirable in the tropics and the arctic regions. In California, Japan, and such climates the walls are of light construction. It is easier to provide against great cold than long, constant heat. In cold, freezing climates double walls and double windows, with an abundance of radiating surface in the heating apparatus, are desirable. The complete inclosure of the basement is desirable for protection of all water and soil pipes against freezing. The separation of ward buildings from the administration, and especially the kitchen, is considered undesirable. Covered corridors connecting the wards are a necessity. In hot climates large swinging fans of the kind used in India are recommended. The evaporation of water from wetted screens relieves excessive heat. In malarial regions a ward high above the surface of the earth is better. For small 12-bed post hospitals the ward in the second story, as in the United States Army model plans, and administration rooms below, is recommended. In the English hospitals as much sunshine as possible is provided for the long axis of the pavilion, which is nearly north and south, but in countries nearer the equator the rule of "orientation" is less regarded; wards are generally so arranged that prevailing winds shall have full sweep. (William Atkinson's valuable contribution to hospital orientation, "The Orientation of Buildings, or Planning for Sunlight," "A Pyramidal Type of Ward Unit.") Some types are no good except for sunlight; a maximum amount of sunlight being needed for all patients is a fallacy, as illustrated in the Virchow pavilions, that have a single type of ward for surgery and ophthalmology alike, with an excessive exposure to sunlight, which is the bane of the ophthalmologist. The need of sunlight is indisputable, and justifies Mr. Atkinson's favoring northeast and southwest or northwest and southeast for long axis of typical hospital wards, as thus all outside walls are exposed to sunlight at some hour of the day throughout the year. Such is not the case where north and south or east and west systems of axes are adopted. Hospital planning must be first and last, and at all times, with *reference* to rules and not in *accordance* with them.

In America our hospitals are not planned in unlimited space as in Germany. The prime object in hospital construction should be to secure the highest possible sanitary qualifications, with such convenience of arrangement as will permit the greatest economy in administration. Beauty in severe simplicity and perfect adaptability to especial purpose are to be borne in mind. Convenience of arrangement must supplant symmetry of design. In hospital construction, as in hospital administration, the following of rules formulated from partial or special points of view leads to *disaster*. Medical knowledge, essentially of pathology, bacteriology, and hygiene, the principles and practice of nursing, the nurse and intern, local surroundings, available resources of the community from which the institution draws its support, and the needs of the community for which the hospital is designed to serve are all important subjects of consideration in planning a hospital.

In the selection of a site of a hospital, adequate fresh air, position and form of buildings, size and shape of wards, and the arrangement of out-patient divisions are all points of prime consideration. In the planning of wards in American hospitals the need of fresh air is rarely overlooked, but in the out-patient divisions, as a rule, ventilation is singularly bad and the need of fresh air is

most apparent. American hospital architecture the writer deems most deficient in ventilation as well as administration of the out-patient division, and would recommend that we go to school to England, where no discrimination is made, and the needs of the main building and out-patient division are equally provided for.

In regard to ventilation space for individual ward patients, in England the local government board makes suggestions which the parish authorities are expected to follow. The requirements are 600 cubic feet per patient for adults and for children's wards 960 cubic feet. In isolation wards 2,000 cubic feet of air space per bed is demanded. For military hospitals the English war office requires 1,200 cubic feet per bed in ordinary wards and 2,000 cubic feet for infectious wards. Prussia, in its elaborate regulations for construction of hospitals, demands an allowance of 30 cubic meters for each adult ward bed and 25 cubic meters for each child's bed. Single rooms 40 cubic meters are the minimum. In New York state 1,200 cubic feet per bed is demanded, and 800 where there exists full and adequate means of ventilation. Climatic and topographical conditions greatly influence natural ventilation. We must consider not only the plan of the hospital structure, but the neighborhood, the administrative practices, and the tendencies of the institution as well, when deciding whether space for each bed shall conform to standard, exceed it, or be permitted to fall below.

If we can raise the standard of administration, quicken the public interest, and secure the maximum of comfort by lessening the sufferings of the sick, especially the sick poor, our labors are not in vain. Modern hospitals erected as living memorials in constant use are incomparably above all useless piles of stone memorials to those "loved long since and lost awhile."

THE HOSPITAL ATTITUDE CONCERNING PUBLICITY THROUGH THE NEWSPAPERS.

"Manners Maketh ye Manne," and It Is the Duty of a Superintendent to be Courteous, But His Discretion Should Determine What Is News.

By GEORGE P. LUDLAM,
SUPERINTENDENT EMERITUS NEW YORK HOSPITAL.

THE very interesting article in The Modern Hospital for December under the above caption contains much that is valuable in the way of suggestion, and outlines a relation between the two institutions which would be mutually helpful if it could be instituted or maintained. Possibly, as the writer seems to imply, the responsibility for any hostile attitude toward the hospital which occasionally displays itself in the press lies with the hospital whose superintendent has been rude and discourteous in his refusal to furnish information. There can, of course, be no excuse for an executive officer who is offensive in his attitude toward those with whom he comes in contact as the representative of his institution. At the same time, is it true that the reporter will always be content with a plain, unvarnished statement of facts, or that his paper will be satisfied with that kind of "copy?" Experience would hardly warrant that belief. In so far as concerns occurrences in which the hospital has largely or incidentally participated, the superintendent must be the judge as to what is proper to give out for publication and what is proper to withhold. This claim on his part is not always, perhaps not often, conceded by the press, and hence the irritation which sometimes develops into animosity.

It is not fair to assume that because a citizen has met with an accident, or is the victim of an assault, and so becomes a patient in the hospital, he must on that account have all his private, personal, domestic affairs exploited in the press. The public may be interested in the facts of the occurrence, and the press may be justified in assuming that such interest exists and in exerting itself in gathering the details for publication, but there must be some judgment exercised as to how far it is proper to go in disclosing these facts, and in the nature of the case, in so far as concerns the hospital, that judgment must be lodged with the superintendent.

Unfortunately there is not always a harmonious agreement between him and the press as to his wisdom and discretion in exercising this judgment, and, perhaps, he is not always as mild and conciliatory as he should be in maintaining his right in this respect, yet it is manifestly unfair for the press to attack the hospital when its representative is standing firmly on his own ground.

It is probable that many hospital superintendents could give incidents from their own experience going to prove that the demands of the press for news are not always so innocently mild as would appear from the article under consideration. For example, some years ago a young physician, practicing in New York City, was called late at

night to an apartment where he found a young woman in a condition of violent hysteria. It transpired that she was living illicitly with the man who was also present, and a bitter quarrel between them was the cause of the trouble. The physician called an ambulance, and had her removed to a hospital. His sympathy led him to assume the responsibility for the payment of the hospital rates, although the patient was a total stranger to him. As the matter started with the police, it became public property and was duly published in the newspapers. One of them embroidered its report with the insinuation that the physician's personal relations with the parties were not above criticism, and hence his unusual activity in the matter. Believing that such an insinuation would injure his reputation, he sought through a friend to induce the paper to retract. It replied that it would print any statement the physician cared to make, and would, if desired, send a reporter to take down his statement, but would not withdraw nor modify the article complained of. And there the matter had to rest, the physician not caring to enter into any controversy.

Now, it would be manifestly unfair to use this incident as an illustration of the attitude of the entire press in such matters, yet it did not serve to cultivate amicable sentiments on the part of the hospital, nor prompt it to be overgenerous in furnishing details.

A young reporter was asked why, when he came to the hospital seeking information about any incident or occurrence, he always persisted in inquiring into the personal and domestic relations of the individuals immediately concerned, with a view to stirring up some moral garbage heap. He replied that he was sent out to gather such facts, and if he returned with the statement that, in his judgment, the publication of them would not tend to the moral uplift of the community, he would soon find that his services were no longer required, and that another man had his job.

Of course it would be quite as unjust to set up this young reporter as a type of a class, and an index of the kind of news wanted by the newspapers, as to regard the rude, discourteous superintendent as a type of his class. The discourteous hospital superintendent is out of place. If the press deals with him, it should be with the individual alone and not as the representative of a class.

Old Commodore Vanderbilt's alleged statement about his two sons is not forgotten. He was quoted as saying that one of his sons was saying "no" all day long and making many friends, while the other was saying "yes" just as often and making many enemies.

All this is not intended to controvert the position of the article mentioned. Its spirit is good and it teaches a salutary lesson—old, perhaps, but none the less important. It is that arbitrary, dictatorial, overbearing conduct is offensive, and excites irritation and animosity, whether it be maintained by a representative of a hospital or of the press. Or, in other words, according to the old adage, "Manners maketh ye manne."

A RECORD BREAKING REPORT.

Hospital Saturday and Sunday Association of New York Inspires Supporters by Fullness of Account of Good Work Done.

In its 1913 report, just issued, the Hospital Saturday and Sunday Association of New York City has published one of the finest samples of hospital statistics ever got out in connection with hospital activities anywhere. The result has been that in the few days that have elapsed since the report came out, many men and women prominent in financial, commercial and social affairs of New York have rallied to the support of the association, and from newspaper accounts of the past few days money is pouring into its treasury. One reason for this cordial and enthusiastic support is that the association has told in its report exactly what became of the money it received last year, the story being a most inspiriting one, and the vast amount of good work done must make every New Yorker feel like participating in it.

The report itself is a ninety-page pamphlet with a bright orange-colored cover, from the front of which the following statements rise up and strike one squarely in the face:

> **"105,669 suffering men, women, and children were last year restored to health, friends, and work, in the great majority of cases, through the forty-seven hospitals of this association."**

The following summary of the work of the association tells the story in brief:

Free hospital days	1,291,442
Total hospital days	2,084,442
Nursing staff	2,047
Free patients	43,772
Public charges	20,636
Paying patients	41,261
Beds in hospitals	7,026
Beds occupied daily (average)	5,589
Ambulance calls	29,415
Dispensary cases	507,277
Dispensary visits	1,673,679

Accompanying the report is a chart, 18x24 inches in size, in which every essential detail about each of the forty-seven hospitals is tabulated, including the number of patients treated in each, the cost per day per patient, the average stay in hospital, the number of paying patients, the amount these paid; all the expenses of administration are tabulated in detail, distributed into items, and even a detailed statement is included showing the capacity and value of each hospital plant.

Those hospitals that are having trouble coaxing money out of their home people for their support might learn something greatly to their advantage by getting this report and publishing something like it, so that prospective givers could know where their money was going.

EXCELLENT WORK FOR CHILDREN.

Gardens of the National Plant, Flower and Fruit Guild of New York City.

A most interesting folder has been issued by the National Plant, Flower, and Fruit Guild of New York City. It tells the story of "The Children's Neighborhood Garden" operated for the past two years on the grounds of the Rockefeller Institute and Hospital. Last summer eighty-four children were entertained and instructed on a piece of ground that was made really beautiful with flowers and vegetables. Each child had a "farm" of 50 square feet, a space 10 feet long and 5 feet wide. There were raised during the spring and summer 418 bunches of flowers, 9,540 radishes, 2,727 beets, 712 heads of lettuce, 4 bushels of beans, 1,240 carrots, and 207 ears of corn. The children were permitted to take these "farm products" home to their families.

A corner of the Rockefeller garden.

A prize winner in the Rockefeller garden.

There was a pathetic side to the story of this farm last year. A prize was offered for the best conducted, cleanest, and most productive "farm." The child in the illustration was the winner of the first prize. Notice the extension of the "jury mast" under his chin. The little fellow has curvature of the spine, and his work on the farm has benefited his health wonderfully and he is getting well. The other picture shows a corner of the farm.

The guild promises to have 200 children at work during the coming spring and summer. In the little folder, just issued, it is announced that the "farm" has almost revolutionized things in the crowded tenement neighborhood. The children go home and start flowers in boxes and in window beds, on the front stoops and on the back porches. The parents are keeping their alleys cleaner, and the owners of the tenements seem to have been shamed into providing better conditions and cleanlier surroundings.

The work of this guild is a suggestion to young women's organizations. This work can be done on any city lot, and almost any property owner would be glad to have a vacant lot so used.

In the great epidemic of the plague at Carthage in 252 A. D. each Christian, following the example of the pious bishop St. Cyprian, turned his home into a "hospitalium" for nursing the sick. Even this work had to be done in secret, as there was great persecution of the Christians at that time, and to be discovered nursing the sick was to be accused of Christianity. Constantine was converted by these Christian manifestations, lifted the ban, and became a zealot.

Pellagra Increasing in the South.

Pellagra seems to be spreading rapidly, especially over the southern states. The State Board of Health of South Carolina reports the disease in active, epidemic form in that state, 1,555 new cases being reported by 574 physicians in forty-three counties.

The authorities are appealing for an institution in which the disease may be studied, with a view to ascertaining the cause. Insanity as a sequel is one of the serious phases of the epidemic as reported by the State Board of Health, and owing to this disease all the state hospitals for the insane are overcrowded.

It is suggested by Dr. J. Adams Hayne, state health officer, that perhaps the disease is not more serious in that state, but that, because of the active work of the Government's Thompson-McFadden commission at Spartansburg, a correct diagnosis is more frequently made.

Denison, Texas, is to have a new city hospital, to be completed very shortly.

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 26.

The Small Hospital a Factor in Medical Education.

Few educators realize how much can be done to train and perfect the general practitioner by a year of service in a small hospital. The importance of the large city hospital is generally recognized by those who seek to educate and train physicians for the better practice of their art. In a city patients come to the hospitals by wholesale, and their presence unquestionably affords the best opportunities for medical men who seek to train themselves for specialized work. The city hospital is not, however, always and invariably the best place for a man who is to become a physician in a remote region, where he may happen to be the only medical man, and must by force of local conditions devote himself indiscriminately to all branches of his profession. In a city the majority of patients who resort to a hospital have already consulted a physician, and many know what is the matter with them and visit the hospital for a definite purpose. The attending physician, consequently, feels less personal responsibility for the diagnosis, and the attending surgeon for the decision to undergo an operation. If additional medical or surgical advice be needed, the opinions of eminent men skilled in all branches of medicine and surgery are easily obtained. The young medical man has the proper course of action in any case indicated to him on every hand and learns to expect guidance.

In the small hospital, apart from centers of population and medical schools, the same condition rarely obtains. Patients apply to them as isolated cases demanding immediate relief because of an urgent necessity for treatment. The resident physician or surgeon cannot select a special case in which he may be interested and refer another patient possibly to some other hospital designed for the treatment of another equally special case. The surgeon may find that he has to deal with a pure surgical case like a gunshot wound or a mixed medico-surgical case like an appendicitis, a typhoid perforation, or possibly an extra-uterine pregnancy—conditions which will not admit of delay to secure a consultation with a specialist or to transfer the patient to a city hospital. The emergency must be promptly met, and the responsibility for its proper treatment cannot be shifted to other shoulders. The physician on duty must act at once. The effect of such pressure is to develop in the young medical man fresh from his studies, with no large store of experience to guide him, a degree of self-reliance and courage to meet a crisis which could hardly be thought possible in a large metropolitan hospital with an ample staff of consulting and attending medical men. Such responsibility, if bravely assumed by a competent man, makes for growth and development at an important epoch in his career. He must study his case thoroughly and act promptly in the light of his best knowledge. Under the conditions forced upon him his surgery becomes definite and efficient. Excellent and self-reliant operators are thus created. Persons interested in the smaller hospitals should regard, in fact, the training of general practitioners as their special field of educational service.

Hospitals of this class often fail to realize the opportunities which they afford for this important work. In too many cases local medical men are timid about attempting any surgery, and, instead of operating, call surgeons from a distant city at serious hazard to the patient, who can ill afford the delay and increased danger.

Every town of 10,000 inhabitants not easily accessible to a city ought to establish an independent hospital in which men can gain experience and skill to meet any emergency which may arise. A good hospital with an operating room equipped for a clean surgery, with a well-trained nurse and a competent surgeon, is a valuable and necessary asset for every such town or large village. No one can foresee when such a hospital and equipment may be called on to save a life valuable to the whole community. Many towns possess such

hospitals through the efforts of self-sacrificing and public-spirited men and women. All honor to them! There should be many more, and each one should be used as a training school for the newly graduated physician, who may here learn to do better, because more individualized, work than is possible in a highly organized and specialized city hospital. He cannot become a trained specialist, but he can learn to do good surgery in combination with practical medicine, and attain a rounded proficiency in all branches of his profession rarely attained by the specialist.

HENRY M. HURD.

General George Henry Torney.

There are some men who spring from the horizon, flash across the firmament of life, startling the world by the brilliancy of their achievements, and, meteor-like, vanish into the unknown from which they came, leaving no trail to mark their passage, no imprint to guide their followers, no permanent good thing to the world.

There are other men who come quietly, unobtrusively, modestly, move in a steadfast, true course across life's span, leaving guide-posts and foot-prints along the way, and, whose work being done, quietly take their leave. But the imprint of their passage remains behind, and the world and their fellowmen are better for their having lived.

To this latter galaxy of the great belongs George Henry Torney, surgeon-general of the United States Army, who passed away on December 27th, in the sixty-third year of his age.

Though a soldier from his earliest manhood, General Torney's part was not to slaughter his fellowman; not his part to do and dare the brilliant charge in the mad heat of battle, drunk and reckless with the hot blood of carnage. Calm and deliberate, he faced his duty amid the tented sick and hurt. In the poisoned swamps of the South, the fever-laden airs of Cuba, and amid the lepers and the plague-infected Orientals of the Philippines he led his army of rescue; the only enemy he fought was disease, his weapons were those of science, and his victories were greater, more far-reaching, and more permanent than any soldier of the line ever knew.

General Torney distinguished himself in the Spanish War, in Cuba and the Philippines, rendered great service to the sufferers after the San Francisco earthquake and fire, and attracted the attention of the world by his work in the prevention of typhoid fever during the recent encampment of the army in Texas. He was chairman of the war relief committee of the American Red Cross.

His death is especially a loss to the hospitals everywhere and to hospital efficiency. All his life he had given his best thought to the care of the sick in hospitals, and, in spite of a niggardly Congress and a complacent war office, and in spite of distressing inadequacy in the architecture and equipment of army hospitals, he had brought all the institutions under his care to the highest state of discipline and efficiency, and his last official act was a recommendation for vast improvements in his service.

General Torney is gone, but the spirit he invoked for the betterment of mankind will live, and, living, must quicken the flame of kindness and charity, and helpfulness and unselfishness in the hearts of all of us.

Sanatorium Equipment—Psychotherapy, II.

Not only is the proper relation of physician and patient the first essential in psychotherapy, as in all branches of practice, but the proper orientation of the physician to himself and for himself is almost equally essential. In more familiar words, the honest physician, of sound training and correct ethical standards, must recognize the limitations of his own capacity and equipment, and must undertake no more in the field of practice than he is competent to undertake according to the best standards of the community in which he lives. It is this recognition of capacity and limitation which distinguishes the true scientific physician from the humbug. It is this recognition which makes possible progress in the *art* of medicine. It is this honest recognition of self which raises the deserving to a place of honor among men, and debases the undeserving. These facts are fundamental in ethics. Bombast, braggadocio, and pretension are not the foundations on which a physician's scientific reputation is built. And, in the long run, bombast, braggadocio, and pretension are not good business assets for any man. Old patients find out the pretender and leave him. An atmosphere of suspicion settles around him. New patients seek him with distrust, and leave him hastily and without compunction. He builds in a shifting foundation, and renews his Sisyphean effort with every consultation. He is a fool as well as a knave. His psychological conception is bad, and yet his practice is founded in false psychotherapeutics. This is an old story, and yet, if pretension is bad in the practitioner, it is worse in the hospital. The credulous layman himself recognizes this fact. No dishonest hospital, no dishonest public medical institution, can long endure. And, more, no hospital devoid of a high scientific standard can reach distinction. No

honest, self-respecting hospital advertises to the mob its wares and boasts of its achievements, even though it be officered by the foremost living clinicians, and has to its credit the greatest discoveries of science. These facts are self-evident. How, then, shall it be with the *private* hospital or sanatorium. There we find the condition on which previously and sadly we have made comment. The commercial sanatorium conducted by an ordinary business man sees no discredit in advertising, business methods. The proper sanatorium will observe modestly an honest standard.

We have before us at this writing the business circular of a sanatorium promoter. He publishes what he calls a "Sanitarium Directory." He states: "The Sanitaria in this Directory are first class, *ethical,* [O Allah!] and directed by men of the *highest attainments* in their several fields of endeavor [sic]. Consult them." Then there follows a list of sixteen unhappy sanatorium medical directors. A well-known sanatorium publishes a full-page advertisement in a popular magazine: "Brain fag—mental confusion—indecision, lack of vim and chronic weakness are evidence of something wrong with the body [ha!]. . . . At [our] sanitarium the efficiency of the whole body is measured; chemists and bacteriologists examine the bodily excretions, the blood and stomach contents; physical trainers test the physique and the muscles; other specialists study the heart, lungs, stomach, and other vital internal organs," etc. Shades of Hippocrates, my sanatorium friends! Are these things well? The American College of Surgeons, regardful of ethics, imposes a searching oath upon would-be fellows. Among all your busy excretion-searching specialists and the rest, lurks there a Fellow of the College? Let us rend our garments, let us mend our ways; and let us seek again that Truth which was yesterday our boast. JAMES G. MUMFORD.

Our Government Medical Corps.

The surgeon-general of the United States Army has submitted plans to the War Department for a new building in which to house the army medical school. The surgeon-general proposes to locate the new school on land adjoining the Walter Reed Hospital on the outskirts of Washington, so that students may have access to the considerable clinic material at that institution.

There is no group of men in modern medicine who have done so much for the health of the people within recent years as the members of the medical corps of the three government departments—war, navy and public health—and their work has been done usually under the great handicaps of extremely limited facilities. For instance, when a medical corps officer stationed at one of the metropolitan posts like New York, Boston, or Chicago, wants to do a piece of original work, he is obliged to accept the invitation and facilities of some local institution on whom the department has no claim whatever. It is to the great and lasting credit of the department, under its present administration, that most excellent and profitable work has been turned out under these conditions.

The duties of a medical officer of a government service differ radically from those of medical men in private practice. The army "surgeon" must be, not only a surgeon, but he must give competent service to the men of the line in every department of medicine, and in accordance with modern scientific requirements. Some of these men, while attending to their duties of camp or station doctor, have specialized on their own account—some on venereal diseases, others on tropical diseases, some on nervous and mental diseases, still others on tuberculosis, and so on throughout what we have become accustomed to call the specialties, and everywhere they have distinguished themselves and have shed luster on the service to which they belong.

Our experience in the past has demonstrated the hazard of maintaining an unpreparedness in time of peace, and the absolute necessity for keeping the services up to modern standards, to be prepared for war. Almost unaided by any governmental—that is, congressional—encouragement, these services have not only kept up, but they have gone ahead of similar services in even the great military states of Europe.

Now let us all add our little influence to see that the army, navy, and public health medical services get what they need. The surgeons-general can only "submit plans"—they cannot insist on their execution. We citizens can raise a row, demand of our Congressmen that they vote adequate appropriations. This is our duty.

Houston's Interesting Problem.

Physicians of Houston, Texas, acting in the capacity of the Harris County Medical Society, have taken the initiative in a movement for a charity or public hospital in Houston. They have passed resolutions for the creation of a hospital board of their own number, with finance, building, training school, and the other standing committees usually appertaining to hospital boards, and they have gone to the public for funds to build a hospital.

It is an innovation in this country for a group of physicians to take over completely the building

and administration of a public hospital. And yet, who should know more about what a hospital should be and how it should be conducted? The trouble with such an organization heretofore has been that "the doctors could never agree." If this is to be an exception to the rule, and if the physicians can raise the money by commanding the confidence of the public, and if they can plan, build, and administer a hospital for the public benefit instead of their own, they will be entitled to the thanks of the medical profession everywhere, and to the gratitude of patients—present and for future generations.

There are three dangers in the Houston proposal:

1. That the medical men in control will undertake to use the hospital for their own personal interests, and that they will fall out among themselves on this account.

2. That those of the profession who cannot be members of the staff will fight the hospital in attempts to bully themselves into a place.

3. That medical men are not, as a rule, good business men—or at least there is a general impression to this effect, though there is no doubt the profession is rapidly taking on some commercial aspects, and financial affairs of physicians are now in much better hands than they were formerly.

A safeguard against all these dangers and pitfalls is for those in control to obtain the services now—not when it is too late—of a thoroughly trained hospital administrator, with medical education, to go along with them in their work as superintendent of their proposed hospital. Such a man will know all the dangers and how to avoid them; he will know more about the approaches to the hearts and pocketbooks of the benevolently inclined than they do; he will disarm criticism for the whole project by guiding it away from partisan and factional rocks, and he will help them to create a hospital and an organization that will be popular with the people by providing in the best possible way for the sick.

Louisville's Fine Position.

There are not very many scientifically trained hospital superintendents in this country—that is, men and women who are capable of administering the scientific as well as the physical departments of a modern hospital, especially one of large capacity and which has a specially delicate relationship to the great mass of the people, such as a municipal hospital. We are increasing the number each year, but there are too few to go round.

The modern hospital is a place where vast sums of money can be wasted by ignorance and incompetence, so that it is necessary to have a superintendent who is a good business manager; but the modern hospital is also a most complex affair, whose sole function, after all, is the care and cure of the sick. Medical science has progressed so far that the administration of the modern hospital requires of the administrator a broad and intimate knowledge of scientific processes, apparatus, technic, and operations.

These thoughts are just now prompted by the newspaper announcement that the newly elected mayor of Louisville, Honorable John H. Buschemeyer, has reappointed for a term of four years Dr. J. W. Fowler as superintendent.

Under the enthusiastic direction of Dr. Fowler, the present superintendent, Louisville is just completing one of the finest hospitals in the country, an interesting illustrated story of which is now in type for publication in THE MODERN HOSPITAL.

Dr. Fowler visited a great many of the finest hospitals in the land preliminary to the completion of the plans, studied hospital architecture and equipment down to the last modern minute, and gathered a vast fund to add to his already great knowledge of hospital administration. Those of us who knew of the masterful way in which Louisville was approaching her problem felt that she was one of the few large cities that evinced sense enough to know, appreciate, and still further educate a competent hospital administrator.

The best hospital thinkers in the country value Dr. Fowler as one of the ablest men in the profession, and THE MODERN HOSPITAL wishes to congratulate Mayor Buschemeyer on the wisdom of his choice, and we beg leave to predict that Louisville is to be one of the most fortunate hospital cities in the land.

Murders in Insane Hospitals.

Illinois is being advertised all over the Union as a state in whose hospitals for the insane murders of patients have become common, almost daily, occurrences. The *Lancet-Clinic*, of Cincinnati, utters the latest commentary on this scandal in a two-page leading editorial, "and if any superintendent assists the coroner to put one of these accidental deaths in the light of publicity," says the *Lancet-Clinic*, "his character is assailed by a multitude of witnesses. He is relentlessly and libelously pursued. There is no end to the filth throwing. If he still persists, he finds it almost impossible to secure and keep other nurse attend-

ants." The writer finds that the nurse attendants who commit these atrocities "are defended by the most unscrupulous lawyers," and he is able to find not a single conviction, even of manslaughter.

Of course the *Lancet-Clinic* finds that the whole cause is politics.

We only half agree with this finding. The fact is that there are a lot of people who think that, without any preliminary training whatever, they can step into a state board of administration and direct the affairs of even so exacting and complex a service as the state's eleemosynary institutions and do justice to them. Given a board of administration made up of men who knew their business, and who have the courage of their knowledge, there is not a governor nor a legislature alive with courage enough to make a political dumping ground of these institutions, or who will have the audacity to defy the people with a policy of political thimble-rigging in connection with them. But this board must be elected by direct vote of the people, and not appointed by a governor who is supposed to be the sop dispenser of a political party.

Trust the people to make short work of any officer or clique or party which has earned a reputation for permitting abuses in their institutions that have the high and holy duty of safeguarding the sick, especially so helpless a class as the insane.

A Chicago Hospital Problem.

It is said that a committee of the Chicago Medical Society is setting out on a propaganda to create two additional county hospitals—one on the north side and one on the south side. It is further proposed to take pay patients in all county hospitals to make them "self-supporting."

It is just such fool propositions as this that have succeeded in practically eliminating the medical profession's influence in hospital affairs in this country. Two additional hospitals for the county, unless they be merely emergency stations, will bring up the per capita cost of caring for the county's wards to a prohibitive figure, and will necessitate the triplication of the tremendously expensive paraphernalia now inseparable from hospital administration.

Moreover, just now, when it is conceded by every hospital authority that "paying patients" in a hospital supported by taxation is all wrong, comes along this committee of men who know nothing whatever about real hospital problems, and propose an "innovation" of this obsolete character.

There can be but one reason for this committee's "propaganda," and that is to make a lot of new staff positions for doctors now out of a job. The medical profession of Chicago owes it to itself to repudiate this action before the people have occasion, once more, to eliminate medical influence from the hospitals and from their health problems.

The medical profession ought to be established in a definite leadership in all movements that have to do with the health of the people, but its members will succeed in this ambition only so far as their influence is exercised along sane, sound, intelligent, and, above all, disinterested lines, and this last proposal answers to none of these demands.

Responsibility for Tuberculosis Hospitals.

Elsewhere in this number of The Modern Hospital will be found a paper by Dr. John H. Gifford, of Fall River, Massachusetts, on the problem of who shall build and operate tuberculosis hospitals. This is a most vital matter to the people of this country, and indeed to the people everywhere.

Almost every state in the Union, following the lead of Massachusetts, has passed laws within the past two or three years compelling counties or cities, or other geographically determined communities, to build and operate these special hospitals. Now we find that the policies we have been following are not working out well, and that something different must be done.

The Modern Hospital had something to say on this subject last month, in an editorial way, in advocacy of the policy of state-built and state-operated tuberculosis hospitals. Dr. Gifford's excellent paper must certainly convince thinking people that the policy of compelling individual communities to bear this burden, without reference to local conditions, is not the last word on the subject.

Dr. Codman on "End Results."

In another part of this number will be found a short paper by Dr. E. A. Codman, of Boston, on end results of hospital treatment. Dr. Codman's original utterances on this subject occurred in a discussion of Dr. Hornsby's paper on "Standardization" read before the Section on Large Hospitals of the American Hospital Association in Boston, and published in the October number of The Modern Hospital. Dr. Codman's discussion was committed to paper and was turned over to the secretary, but was not published with the balance of the discussion.

Dr. Codman feels that, in justice to him, his discussion should have been published. As his

viewpoint is most instructive, and his position a radical one as well as a most reasonable one, we take pleasure in publishing the Doctor's paper.

EDITORIAL COMMENT.

Trustees of the Allentown (Pa.) hospital have announced through the newspapers of that city an increase in the ward rates for private patients from $3 to $4 per day. A statement accompanies the announcement that the cost of food per patient per day has increased in five years from $1.06 to $1.63. Of course these figures of cost are misleading, and should not be allowed to go unchallenged. Probably the hospital board meant that the whole cost per capita per day was represented in these figures. No hospital in the world spends any such amount of money for food.

The Michigan Supreme Court has held in a recent case that a hospital's records of patients are not open to the public, and that the hospital cannot be compelled to show its records of patients even in a disputed diagnosis for insurance purposes. The Mutual Life Insurance Company had declined to pay the insurance in the case of Vernon J. Willay. If this is the law, many precedents will have been overturned, and a material readjustment of policies must be instituted. It has been conceded in most hospitals that courts of record have a right to call for hospital records, and it has been the custom in most courts to call for the records on the request of either side in a case at issue.

A newly chosen "joint city and county" hospital board of Ft. Worth, Texas, began its work by holding secret sessions after the passage of a resolution forbidding any member to give any information on any hospital subject to the press, and appointing the secretary to give out all news. Ft. Worth had better watch that board. A hospital concerns the most vital interest of the people —the public health—and there should be nothing going on there that the people cannot know. It is rot to talk about guarding the public interests during the letting of contracts by secret sessions of the board. No public interest can be guarded by secrecy. But the nimble fingers of an expert can purloin public money if no one is permitted to look while the job is being done, and the preliminaries at Ft. Worth have all the ear-marks of expert manipulation.

San Francisco papers are publishing columns of news about petty pilfering in the municipal hospitals, especially the city tuberculosis hospital. One Brown, a waiter, was found with a ham under his arm leaving the premises. Investigation led to a strong suspicion that there was a regular "system" of petty thievery, with an organization behind it. In the meantime Brown got a good lawyer, and is tangling the situation up in a mesh of technicalities. This is one of the evils of a politically run hospital system, and the Browns and other petty thieves will have the sacred mantle of the civil service thrown about them to handicap the activities of capable and honest administrators.

Louisville is agitating a proposal to place its new million-dollar hospital in the hands of a commission, with the avowed intention to take it out of politics. What difference does it make whether a municipal hospital is run directly from the mayor's office or by a commission, if the commission is to be appointed by the same mayor. As a rule, a man charged directly with a duty, subject to the approval of the people, will come nearer to doing what the people want done than if the same man can appoint a commission and hide behind the commission when trouble comes. He can easily play politics in the latter case, and compel his commission to carry whatever odium may come; he can even remove the commission, or a member, if the odium grows too great for him. Better place the responsibility first hand; one then knows who is actually responsible when things go wrong.

Blood Transfusion in 1666.

A reader of the *Journal of the American Medical Association* (1914, LXII, 147) quotes the following from Samuel Peppy's diary, which he believes to be the first account of the transfusion of blood:

"Nov. the 14th, 1666. Dr. Croone told me that at the meeting at Gresham College tonight (which, it seems, they now have every Wednesday again) there was a pretty experiment of the blood of one dog let out (till he died) into the body of another on one side, while all his own run out on the other side. The first died upon the place, and the other very well, and likely to do well. This did give occasion to many pretty wishes as of the blood of a Quaker to be let into an Archbishop, and such like; but, as Dr. Croone says, may, if it takes, be of mighty use to man's health, for the amendment of bad blood by borrowing from a better body.

"Nov. 16th. This noon I met with Mr. Hooke, and he tells me the dog which was filled with another dog's blood, at the College the other day, is very well, and like to be so as ever, and doubts not its being found of great use to men, and so do Dr. Whistler, who dined with us at the tavern."

Strange as it may seem, war, the destroyer, had more to do with the establishment of hospitals than all other influences combined. And wars have come and gone, and oftentimes their only monument has been a hospital. What came of the Crimea? Only Florence Nightingale. What have we left of the crusades and the "holy wars"? Hospitals all over Europe, built by the knights, whose dying followers compelled them to halt on their way to fight the infidel.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Construction of Hospitals, Asylums, and Kindred Establishments (Costruzione degli ospedali, ospizi et stabilimenti affini). C. M. Belli. Ulrico Hoepli, Milano, 1913, 507 pp., 12mo.

The author, who is professor of hygiene at the University of Padua, gives in this manual a complete view of modern hospital construction, illustrating the various systems by numerous plans and views of the most famous hospitals in the world. The work is divided into two parts. The first part treats on the construction of general hospitals. The author first gives a historical review of the development of hospital construction from ancient times to the present day. He then considers the three great types of modern hospitals—the corridor, the pavilion, and the combined system. With regard to the location of a hospital, he considers a moderate elevation the most suitable place for a hospital, because the conditions are favorable to natural ventilation and to carrying away the rainwater and sewage. In cold climates the hospital is best built on the southern slope of a hill to protect it from the cold winds, while in warm climates the building ought to have a northern exposure. If located in a plain, the hospital ought to be raised on a substructure. If placed near a populous center, the hospital should be so situated that the wind carries the smoke, dust, and vitiated air of the city away from it. To avoid noise, a hospital should not be located near a public highway, railway, street car line, factory, etc. The soil should be impermeable, or, if permeable, the layer carrying the subterraneous water should be very deep.

In Chapter VII the author discusses the number of beds with regard to each room and to the whole building. An ideal hospital would have a separate room for each patient, but, as the public conscience has not yet advanced so far, the planners of a hospital should divide the building into as many and as small rooms as possible. The German writers content themselves with 10 to 12 beds per sick room, while French authors, like Reverdy and Martin, hold that no room should contain more than 4 to 6 beds. At any rate, there is a tendency in modern times to diminish the number of beds in each room.

With regard to the number of stories, Belli considers the one-story pavilion best adapted to the purposes of a hospital. He says, however, that of late years there has been a tendency to pay less attention to the importance of the number of stories, and recent English hospitals have been built with three and even more stories. A few years ago Sarason, of Paris, proposed a new style of pavilion, which would contain four or more stories, but constructed in such a manner that each story projects on its southern front beyond the story above it, thus forming a number of terraces, but this form of construction was severely criticised by Rubner at the International Congress of Hygiene at Berlin.

The author devotes a special chapter to isolation rooms. He says that, while it has not been possible so far to provide a separate room for each patient, yet there is a certain number of patients for whom it is indispensable to have a separate room, and in each pavilion such isolation rooms should be provided to receive patients who are dangerously sick, moribund, or delirious, as well as patients who are suspected of having an infectious disease.

In Chapter VIII the author discusses the principal types of pavilions—the rectangular pavilion, the pavilion with a corridor, and the circular or octagonal pavilion. In the first type the accessory compartments are at one extremity of the pavilion, so that the patients' ward receives light and air from three sides, or they are at both extremities or in the center of the building. In the second type the location of the accessory compartments is quite irregular, differing in almost all the hospitals of this type. In the circular and octagonal pavilions the accessory compartments project from the main building, forming an annex. Numerous plans illustrate the various types.

Chapters IX to XIII are devoted to illumination, ventilation, water supply, and sewerage.

With regard to the surgical division, the author holds that the antiseptic method in the treatment of external lesions does not remove the danger of infection, and that it is necessary to separate the septic from the aseptic cases, and, if possible, the two sections should be in two separate pavilions.

Part II treats on the construction of special hospitals. The author discusses at length isolation hospitals, tuberculosis hospitals, special hospitals for surgical diseases, lying-in hospitals, pediatric hospitals, hospitals for the insane, clinical hospitals, rural hospitals, asylums for incurables, and barrack and tent hospitals.

It is impossible in such a short sketch to give a complete view of the excellent qualities of this book. The author has devoted extreme care and diligence to his work, and it is evident that he has made himself familiar with the plans and construction of all the great hospitals existing. The work is rendered all the more valuable as it contains no less than 253 plans and views of famous hospitals all over the world.

Cook County Tuberculosis Hospitals. Ill. Med. Jour., 1914, XXV, 40.

The committee on Cook County Tuberculosis Hospitals has made the following recommendations:

For the Oak Forest Tuberculosis Hospital:

1. Capacity, 600 after the new tuberculosis hospital and eight open-air cottages are constructed.

2. One physician for each 50 patients, graded as follows for 600 patients: one head physician, $2,400 plus maintenance of self and family; three assistant head physicians, $1,800 plus maintenance; eight assistant physicians, $1,500 each plus maintenance.

3. Nurses. One nurse for each 10 bed patients; one nurse for each 15 ambulatory patients. Of these nurses there should be for every 50 patients one graduate nurse from a recognized training school. These nurses should be graded as follows for 600 patients: one head nurse, $1,800 plus maintenance; one assistant head nurse, $1,200 plus maintenance; ten graduate nurses, each at $840 plus maintenance; thirty-three female attendants at $540 to $600 each.

4. Diet. Employment of a trained dietitian, whose duty would be the supervision of the food supplies received in the preparation of the patients' diet, of the quantities of various foods used, of the method of preparation of the diet as well as the method of serving same. Said dietitian to receive a salary of $1,800 per year plus maintenance.

5. Laboratory. Appropriation of $2,000 to purchase laboratory nose and throat and medical equipment for thorough study of cases.

6. Visiting nose and throat physician. Employment of visiting nose and throat physician, one or two afternoons per week, at compensation of $10 an afternoon.

7. An appropriation for the purchase of equipment necessary for open-air treatment of suitable cases.

8. A full quota of domestic service, rendering unnecessary the assignment of work to patients whose condition forbids it.

For the Tuberculosis Department of the Cook County Hospital:

1. Early restoration of its full capacity of 324 beds, which is curtailed to 220 beds at present by the building operations at the institution.

2. Establishment in this department of two diagnostic wards of 6 beds each to start with, one ward for men and one ward for women, for the accommodation of suspicious cases of tuberculosis, which require for their diagnosis thorough hospital study.

3. Employment of a resident head physician at a salary of $1,800 and maintenance.

4. A special staff of four attending laryngologists.

5. An appropriation of $1,500 for purchase of laboratory and nose and throat equipment.

6. Employment of a trained dietitian, whose duty would be the supervision of the food supplies received in the preparation of the patients' diet, of the quantities of various foods used, of the method of preparation of the diet, as well as the method of serving same. Said dietitian to receive a salary of $1,800 per year plus maintenance.

7. A sufficient increase in the domestic service of the department to keep it in most sanitary condition, and assist the nurses in the arduous labor connected with the care of bedridden patients.

8. Intern service to cover one consecutive month instead of the present interrupted service of three weeks, and the terms of service of interns overlapping each other.

9. Extension of the nursing service of the general hospital to the tuberculosis department.

Paris Hospitals (Pariser Krankenhäuser). Hanna von Pestalozza. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 10.

The new Pitie Hospital of Paris is a classical model of modern hospital construction in a great city. All the improvements in modern hospital science have here been applied. The total length of the building complex is 650 meters, with a depth of 190 meters. At the left of the main entrance is the consultation building. It contains waiting rooms for men and women, consultation rooms for surgical, dental, ear, nose, eye, and internal diseases. At the entrance of the central street stands the amphitheater and the great lecture hall. On the left are the six medical divisions, and on the right the surgical divisions, with aseptic and antiseptic operating rooms. Further on we come to the lying-in institution, embracing several pavilions. This new hospital has room for 988 patients; 480 beds for medical and 308 for surgical cases, 10 for nervous patients, 42 for children, and 63 for new-born infants.

An old hospital is Saint Antoine, in the district of the same name. It was erected in the twelfth century and was formerly a convent. During the Revolution it was changed into a hospital, but many new buildings have since been added.

At Aubervilliers, near Paris, stands the Claude Bernard Hospital. It is a hospital for infectious diseases only, and is isolated from the town of Aubervilliers by parking and a high wall and from the city by the fortifications. It is a beautiful structure, and is provided with all the modern appliances to combat infection.

The venerable Hotel Dieu stands in the center of Paris. Founded by King Clovis in the seventh century, it has in the course of time undergone many changes. It was twice destroyed by fire. The present buildings were erected between 1868 and 1878. An extension is now planned to raise the number of beds from 600 to 1,000.

Bicetre Hospital is situated outside of Paris, twenty minutes from the Italian gate. It is located on a hill, with a beautiful view of the city of Paris. This immense hospital, with its streets, squares, and rows of buildings, its parks and gardens, and its numerous officials, makes on the visitor the impression of a city. This hospital contains no less than 3,000 beds. Of special interest is the division for weak-minded children. It is surprising to see what can be accomplished in the education of these poor children, and what gentleness, devotion, and enthusiasm can do to elevate their condition.

Address of Harvey Cushing Before the International Medical Congress in London. Editorial in Australasian Med. Gaz., Sydney, 1913, No. 18.

Prof. Cushing refers to realignments in greater medicine, and outlines the character of the hospital of the future. An evolution of the modern hospital will result in more intimate cooperation of the general practitioner, the specialist, and the institution. An institutional treatment of sick of all classes will be the practice of the future. The worst feature of disease is the impossibility of treating the average patient at home, unless he possesses wealth. In the public hospital the poor patient is provided the best possible treatment. His case is investigated by a clinician, with the aid of a special pathologist and biochemist. An examination is essential for a correct diagnosis of his particular disease and its satisfactory treatment—features that are unattainable and unavailable at the home of the poor patient. Prof. Cushing refers to the private hospitals having generally no staff or experts, and to the increased fees where specialists' advice is required. He claims there must be a modification in the conduct of the public hospital for others than indigent poor, or the private hospital must be reorganized; it must have one inclusive fee, which will take in the service of the clinical specialist, pathologist, et al., or an intermediate hospital for those able to pay moderate fee. The wealthy rich look out for themselves. The idea of the intermediate hospital seems to have appealed to many, yet no serious attempt is being made for its general establishment. The obstacles are that it seems unfair to expect a philanthropic public to support a public hospital, unless patients or their friends give in proportion to their means. A resolution of the Australian Medical Congress condemns the idea of patients paying in public hospitals. Prof. Cushing would have the hospital staff paid for service, with no privilege of outside practice, but he does not suggest how they are to be paid. The editor claims that patients are not animals, to be treated mechanically; that individual characteristics are to be considered, and temperament, heredity, etc., are to be studied. This, with the personality of the medical attendant, is of more value than

other forms of therapeutics. In his opinion the subject of the modern hospital and its relation to the profession is full of difficulties, and the solution of the problem must depend largely on future social development.

Professional Responsibility for Faulty Hospital Organization. Lewis Stephen Pilcher. Year Book Pilcher's Hospital, New York, 1912-13, No. 3.

Attention is invited to criticisms of a Vienna otologist on conditions in American hospitals. He claims that there are too many heads to every department. That there is no regular system of post-mortems, and that under existing conditions Americans must seek special knowledge in foreign countries. The writer believes superintendents of hospitals possess too much power, and their authority should be limited to its "administrative" features. One man should be supreme in a hospital department, and the specialist should be capable of teaching and caring personally for all the cases. The author lays special stress on the imperfection in present hospital "methods" being due to the medical profession. The insistency of medical men for "appointments" to hospital positions sometimes amounts to scandal, resulting in diminished respect of lay managers of hospitals for the medical staff. A regulation exists in some hospitals that no member of the visiting staff shall be a member of the board of managers. A special knowledge, which only the training of a physician can give a hospital's complicated organization, is appreciated only by physicians doing the work. As the responsibility for results is to be borne by the physician alone, he is consequently the one under whom the professional work of such an institution is to be carried on.

Management of Hospitals and Kindred Institutions (Ordinamento dei servizi negli ospedali ed instituzioni affini). C. M. Belli. Ulrico Hoepli, Milano, 1914, 351 pp., 12mo.

This manual of hospital management is a complement to the author's work on hospital construction, reviewed elsewhere. It is the author's aim to raise the standard of hospital management in Italian hospitals, as, according to him, the Italian hospitals are inferior in construction and arrangement to those of foreign countries. Italy is also behind the times in scientific hospital management. Antiquated methods and customs are still followed, and the hospitals are hampered by short-sighted considerations of economy. A law governing the management of the Italian hospitals was promised by the Government years ago, but nothing has been done so far. The hospital physicians are frequently selected without a competitive examination, and, if an examination is held, it is adapted to the age, title, and knowledge of the candidate previously selected.

The work is divided into two parts. Part I treats on general hospitals. A large space is devoted to the alimentation of the patients. Part II treats on the management of special hospitals. As the book considers chiefly Italian conditions, it is, of course, of greatest value to Italians.

Social Factors in the Prevention of Insanity. Frank P. Norbury. Lancet-Clinic, 1914, CXI, 39.

The social factors are becoming increasingly prominent in medicine as we advance toward the ideal of preventing, rather than curing, disease. Everywhere the importance and value of the individual is being emphasized. To understand man as a social being, we must have a comprehensive view of his instincts, tendencies, and traits. To get such a view, the facts of his daily life must be observed. Norbury shows how the application of these principles is especially important in mental disorder, where external or remote conditions often have more influence than seemingly direct ones. Some of the problems demanding study in their bearing on the question are the housing of people, the aimless aggregation of the crowd, the popularity of the saloon and the drinking of alcoholic liquors, prostitution, the crowding of cities, the depopulation of rural districts, and the effect produced on immigrants by their radical change in environment. The best way to limit insanity is to understand and combat all social conditions which tend to increase it. He believes that the alarming increase in insanity so frequently asserted is apparent rather than real.

A New Medical Organization in England. Jour. Am. Med. Assn., 1914, LXII, 149.

The bitter feeling engendered by the passage and enforcement of the British national insurance act has culminated in the organization of a new medical body known as the National Medical Union. It represents the non-panel practitioners—that is, the physicians of England who for various reasons declined to go on the list of physicians available in each locality for services under the insurance act, of whom there are about five thousand. The reason for the organization seems to be opposition to the insurance acts themselves and opposition to the management of the British Medical Association. This association first opposed the acts, but later many of the members enrolled in the panels, so that the new organization is made up largely of members who have conformed to the original policy of the association itself. The *Medical Press and Circular* says that there is little doubt that the administration of the British Medical Association leaves much to be desired, and that there is room for another medical organization to undertake important functions either neglected or inadequately performed by the British Medical Association as now conducted.

Establishment of a Nurses' School in the Vienna General Hospital (Errichtung einer Krankenpflegeschule im Wiener Allgemeinen Krankenhause). Oesterreich. Sanitätswesen, Wien, 1913, XXV, No. 37.

The Government of Austria is making great efforts to raise the profession of nursing, and for this purpose intends to establish a number of nurses' schools. The first school of this kind was opened October 15, 1913, at the Vienna General Hospital. It is financed by the state, and is under the supervision of the director of the hospital. Instead of the merely empirical training the nurses have until now received, the school will give them theoretical and practical instruction in a course lasting two years. The school does not only train nurses for the nine hospitals of Vienna, but will receive any persons who wish to devote themselves to nursing children, in families, insane hospitals, etc. The state provides board and lodging for the pupils. Those pupils who bind themselves to serve after graduation three years in any of the Vienna hospitals, with the usual pay, are received entirely free, and the others have to pay 70 crowns (about $40) during the first year.

The New Building of the Augusta Hospital at Berlin (Der Neubau des Augusta Hospitals zu Berlin). C. A. Ewald. Berl. klin. Wchschr., 1913, L, No. 50.

This Hospital was founded by Queen Augusta during the war of 1866. It was the first barrack hospital built in Germany. It was then supposed that a barrack hospital would not only be much cheaper than a stone structure,

but that the hygienic conditions would be superior to an ordinary hospital. These expectations were, however, fulfilled only to a moderate extent. In the course of time the wooden structures required frequent repairs, so that in the long run the hospital cost just as much as a stone structure. As the barracks were constructed on a faulty plan, the hygienic conditions were not equal to those of an ordinary hospital. For these reasons the wooden barracks were torn down in 1912 and one large stone building erected. The cost of this new structure was 460,000 marks ($115,000), or 5,750 marks ($1,437) per bed.

Bichlorid as a Germicide. Med. Council, 1914, XIX, 5.

The recent agitation against the use of bichlorid of mercury tablets by laymen has raised the question as to the necessity for the use of this chemical in surgery. The claim seems fairly well sustained that when it is precipitated from the germs they resume their vital functions. Bichlorid is irritating, even causing necrosis in some cases where the tissues are devitalized. It does not require much absorption of bichlorid to cause most alarming symptoms. It is quite inert as an antiseptic in the presence of albumin, with which it combines. It is inert in the presence of fat or soap, or of strong alcohol. Aqueous solutions are very unstable, the bichlorid being reduced to calomel. It corrodes instruments and roughens the hands. It is a serious question whether surgeons should continue the routine use of this highly toxic and often disappointing agent.

The Pedro Mata Institution (Reus Hospital for the Insane)—Instituto Pedro Mata (Manicomio de Reus). J. Brianso Salvado. Gaceta medica catalana, Barcelona, 1913, XLIII, No. 865.

The hospital is situated about two miles from the city of Reus in the fertile and beautiful plain of Tarragona. It consists at present of eleven separate and distinct pavilions, but when completed will embrace eighteen pavilions in all. A large street passes through the middle of the establishment, separating at the same time the two sexes. Each pavilion has its own garden. The different classes of patients are kept separate. There are separate divisions for idiotic insane, for epileptics, the querulent insane, for the violent insane, and for quiet patients. The "no restraint" system is adopted throughout, and only dangerous patients or those with suicidal mania are kept separate.

The Need of Free Little Nell Beds. Irving W. Voorhees, Med. Rev. of Rev., New York, 1913, XIX, October.

In his address before the American Dickens League, at the dedication of the first Little Nell Bed in the Health Home, West Coney Island, the speaker refers to the specific work of the League and to its two great civic duties—which are to commemorate the life and work of the great author and the endowing of beds for sick children in hospitals everywhere, the latter project in line with the life and works of Dickens. He claims that had Dickens been an American millionaire, he would have been a practical philanthropist; that he would have enlisted the sympathies of large-minded, generous men of wealth and induced them to loosen up their purse strings; that the Little Nell movement would be today an established fact, a working reality.

Observation Wards and Noncontagious Diseases. Lancet-Clinic, Cincinnati, 1913, CX, No. 25.

The New Cincinnati General Hospital will have a feature that will doubtless be common in the future municipal and urban hospitals. It is to consist of "observation wards" connected with the receiving department. Emergency cases are often taken in when proper diagnosis is essential for early and correct treatment. When discrimination between alcoholism and hemiplegia or lineal fracture of the skull beneath a scalp wound of a patient who has been drinking should be made, in justice to the police and the protection of the patient's reputation, a careful diagnosis in the unconscious or semi-conscious state is to be reached. In doubtful cases the patient will be received in observation wards, and treated by those whose experience and training will enable them to arrive at correct diagnosis.

Recent Developments in Germany. Jour. Am. Med. Assn., 1914, January 10.

The difficulty between the German physicians and insurance companies in regard to the insurance laws is as yet unsettled. A proposal has been submitted to the Government by representatives of the medical departments of three of the German universities, but has not yet been passed upon. The physicians will take care of any patients as individuals, but not as members of the insurance societies. Physicians are directed to charge exactly the same fees as they would receive if they were doing the work for the insurance societies. The *British Medical Journal*, commenting on the German situation, says that if the profession is strong enough and sufficiently united to carry out the fight as indicated in the instructions of the Federation of German Doctors' Unions, a complete victory for the physicians is sure to be the result.

Occupational Diseases. Hospital World, 1914, V, 6.

An important step forward has been taken in the Massachusetts General Hospital in its out-patient department in the establishment of a system designed to obtain accurate information on occupational diseases. The new case history blank sets forth what the man may be doing daily which predisposes him to certain diseases. Under this new system it is expected there will be a record of fifty thousand cases in the course of five years, and from these statistics Dr. Edsall, of the hospital staff, a recognized authority on this subject, believes it will be possible to form sound opinions regarding the causes of occupational disease and the measure of risk which is being run by the workers. This is worthy of imitation by other hospitals and physicians.

Report of the Committee on the Standardization of Hospitals. Boston Med. and Surg. Jour., 1914, CLXX, 71.

This committee urgently recommends that a uniform method of keeping statistics be adopted by all American hospitals. Statistics from different hospitals as now kept cannot be compared with one another and have any value. They also urge that a follow-up system be adopted, and that the work of the Carnegie Foundation be extended so as to classify hospitals as well as medical schools with regard to efficiency.

Clean Hands. Douglas H. Stewart. Med. Council, 1914, XIX, 18.

Stewart claims that granulated sugar is an excellent cleanser and antiseptic, and recommends it for cleansing the hands instead of soap. With sugar and water, followed by chlorid of lime and water, the physician's hands may be rendered sterile. He describes experiments in cleansing his hands with it after they were soiled with pus, grease, and street dirt. Cultures after cleansing showed no pathogenic germs.

Surgeon Responsible in Spite of Nurse's Count of Sponges. Jour. Am. Med. Assn., 1914, LXII, 154.

In the case of Davis vs. Kerr the Supreme Court of Pennsylvania reverses a judgment rendered for the defendant and orders a new trial because it does not consider that it was sufficient defense merely to show that he relied on a count of sponges made by a nurse. It was necessary for him to acquit himself of negligence with respect to it by showing that it was so hidden and concealed that reasonable care on his part would not have disclosed it, or that conditions were such that in his professional judgment further exploration by him for sponges would have endangered the safety of the patient. He must show, in other words, that he did all that reasonable care and skill would require.

The Larger Service. Hospital World, 1914, V, 8.

Two large public hospitals have recently been censured for a similar offense—that of having turned away a man for drunkenness. In both cases the men were taken to police stations and died there within a few hours. It is questionable whether a general hospital, supported by public funds, should turn anyone requiring medical treatment from its doors, no matter what the disease. Large hospitals should have individual probation wards, where any such night cases could be placed and made temporarily comfortable until there is opportunity for thorough diagnosis.

Medical Students and Nursing. Internat. Hosp. Record, 1913, December 17, 1.

The suggestion is made that new medical students be given experience in nursing in the male wards of the hospital. This should be done under careful supervision, the expense of the supervision being borne by the students' fees. A nursing service of at least a month, preferably two months, should be required of each student. Part of the service should be on night duty, as conditions are very different at night. It could probably be arranged that most of the students should do their nursing during the summer, just as the engineering students have their "field work" at that time.

Field Hospital Equipment. Indian Med. Gaz., Calcutta, 1913, XLVIII, No. 12.

In an editorial the writer refers to recent important modifications in equipment in the Indian service. An Indian field ambulance carries 75 different drugs and a general hospital 178, the corresponding numbers in the British service at home being 42. The supply of dressings, however, has been very short. Under new arrangements boric lint is abolished, and for 35 yards of cyanide gauze is substituted 340 of cyanide and 140 of plain gauze. Bandages are increased from 174 to 295. Iodine metallic is adopted as the new disinfectant and linen thread supplants the expensive and perishable ligatures.

Infant Mortality in 1913. Boston Med. & Surg. Jour., 1914, CLXX, 107.

A report from New York shows that the infant mortality rate in that city in 1913 was the lowest on record. The infant death rate for the year was 102 per thousand births. Last year it was 105.3 per thousand. This means a saving of over three out of every thousand babies born as compared with last year. The general health report of the city for 1913 shows a reduction in the death rate per thousand for all ages from 14.11 to 13.76.

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Tuberculosis in Children.

The New York Department of Health has just published a most instructive epitome of some work done by Dr. Alfred Hess, showing the great communicability of tuberculosis as affecting children.

The children examined by Dr. Hess were part of the population of a large infant asylum in New York, in which the Pirquet test was employed as routine practice every six months on every child. In the case cited seven out of ten tested were negative. They were placed in charge of a nurse who, it afterward was learned, had tuberculosis. In three months after being committed to the care of this nurse all the ten children gave positive Pirquet reactions. Dr. Hess' chief development was the necessity to guard children in their homes from infection by older people.

FOREIGN CORRESPONDENCE

LONDON LETTER.

The New Empire Hospital for Paying Patients—Description of Its Architectural Construction—How It is to be Managed.

London, January 15, 1914.

As in previous letters I have, on several occasions, made mention of the forthcoming opening of the new Empire Hospital for paying patients, some account of this institution may be now not unacceptable, for the hopes of its founders have now been carried into effect—at any rate to the extent that the hospital is now *un fait accompli*, and that it has been successfully launched on what everyone hopes will prove a beneficent and not unprofitable career. During the last few days, with admirable hospitality, the directors have thrown the institution open to medical and other visitors, and all have had an excellent opportunity of pursuing for themselves the most critical inquiry into the plan, aims, and methods of those who are responsible for its inception. As I think I have already stated, the idea is to wipe away, in some measure at any rate, the reproach so often hurled against the hospital system of London—that so little is done for our middle classes—and incidentally it is hoped that visitors from our colonies (and surely from the United States as well) may find in London something of the convenience in times of sickness that is so ready in their own great and even lesser cities. Well, the site occupied by this Empire Hospital is very central—only a few minutes from our Houses of Parliament and from Westminster Abbey, to give two familiar landmarks, and yet in a quiet, airy, and sunny square, singularly secluded from the din and roar of our greater highways, and yet easily accessible to everyone from everywhere.

The building itself, an unpretentious but suitable edifice, constructed of brick and stone in what may be called the hospital variety of early eighteenth century architectural style, occupies what I fancy you would designate as a "corner lot," thus securing the greatest amount of light and moving air possible. At the present moment accommodation is available for 40 patients in separate bedrooms. Accommodation for the staff is provided on each floor in the wings or return flanks. The two operating theaters are on the highest floor, and appear to be very perfectly equipped. I heard no word of adverse criticism from my surgical friends. An anesthetising room, as well as rooms for recovery, are of course provided, and the sterilizing arrangements seem adequate. The operating theaters, anesthetising room, sterilizing room, and doctors' room are isolated from the patients'

Fig. 1. Empire Hospital—Front and side view.

rooms, and especially ventilated in order to prevent fumes penetrating into other parts of the building. Special care has been taken in the provision of what is perhaps a little unusual in an institution of such moderate size—complete installation of electric light, radiant heat, and other kinds of baths, while it goes without saying that an up-to-date x-ray room has been very well fitted up and elaborated.

The kitchens, in the basement, are very good indeed. The whole of the cooking is to be done by electricity, and the most modern appliances have been purchased, but, of course, gas is installed as a standby. Speaking generally, the construction of the whole building struck me, as an old medical officer of health, to be very good. Enamel

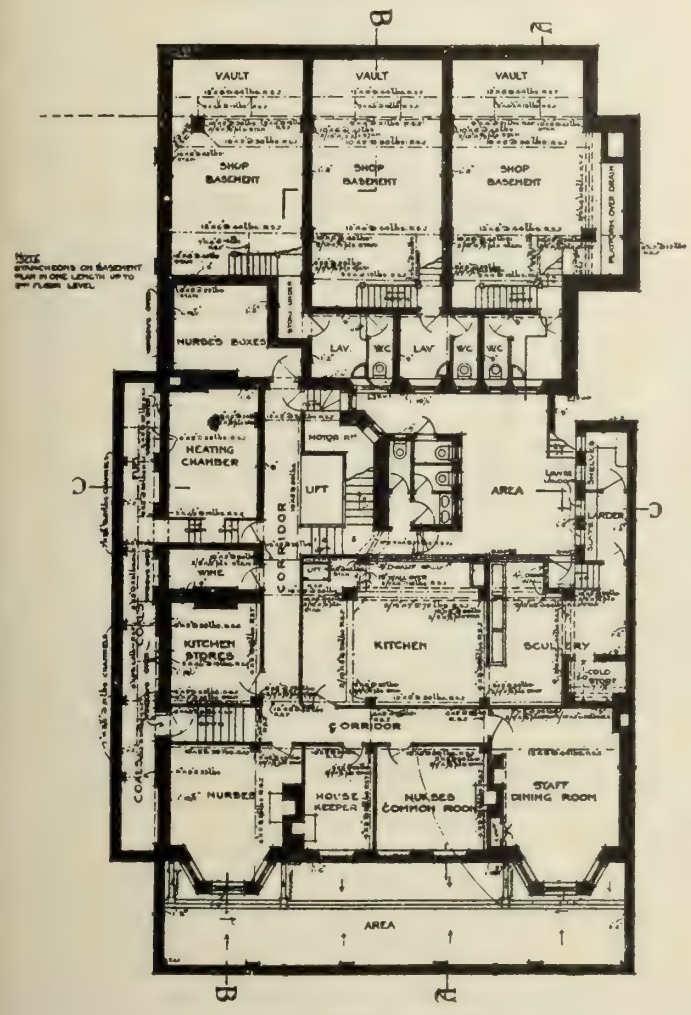


Fig. 2. Empire Hospital—Basement.

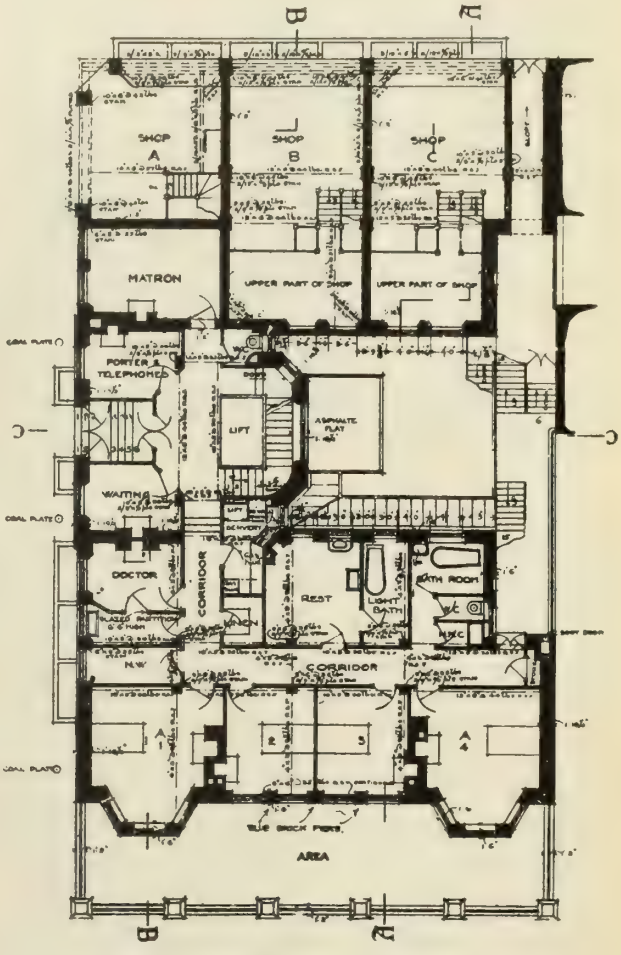


Fig. 3. Empire Hospital—Ground floor.

has been freely used, the tilework is excellent and lavish, and all floors have been covered with one of the special cement and stone mixtures now found to be so satisfactory. The furnishing generally has been carried out with considerable taste, and quiet and harmonious tones of gray and lavender are echoed from the walls and repeated on the few but necessary hangings. The special woodwork was all, I believe, supplied by Messrs. Heal, who are known as being "specialists" in bedroom plenishing, and the adoption of skilled advice is everywhere manifest.

Hollow tile construction has been adopted for floors and partitions to minimize as far as possible the transmission of sound. Floors, partitions, and staircases, are constructed of incombustible material, and all steelwork is protected in order to render the building as a whole fire-resisting. Precautions have been taken to afford ready means of exit in case of fire by the provision of external staircases of ample width for the passage of patients on stretchers. The building is divided into three sections by means of fire-resisting doors in order to lessen the risk of fire spreading and involving the whole of the building at one time. The heating is furnished by low-pressure hot water, a radiator being fixed in each patient's room in addition to the open fireplace. The architect is Mr. W. Ernest Hazell, F. R. I. B. A., and Messrs. Holloway Bros. (London), Ltd., were the builders.

The matron—or, rather, lady superintendent—Miss Macintosh, is well known as the former capable head of the nursing service of one of our smaller special hospitals, and the administration of the institution is, I gather —for the present at any rate—delegated to her by the board of directors. The wisdom of having selected so able an incumbent of this important post is the more apparent when I say that no resident medical officer is—yet awhile at any rate—to be appointed, but that a panel of neighboring practitioners, willing to act in emergency, is to be formed, and that from this panel those physicians and surgeons attending cases in the hospital will select deputies if they desire. Any qualified medical man may send his own cases into the hospital and operate upon them if he wishes, and this concession will be appreciated by many who find somewhat irksome the restriction im-

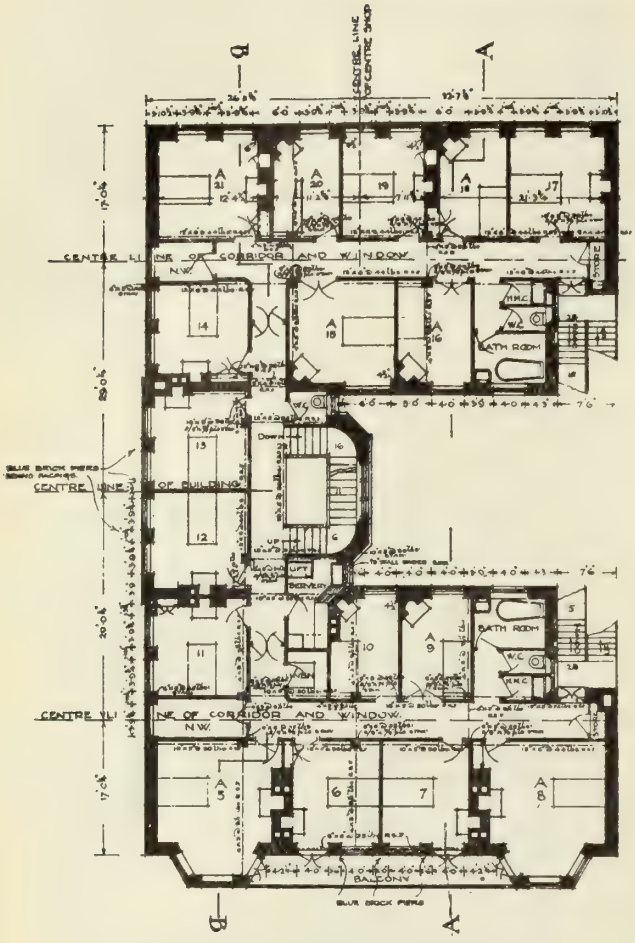


Fig. 4. Empire Hospital—First floor.

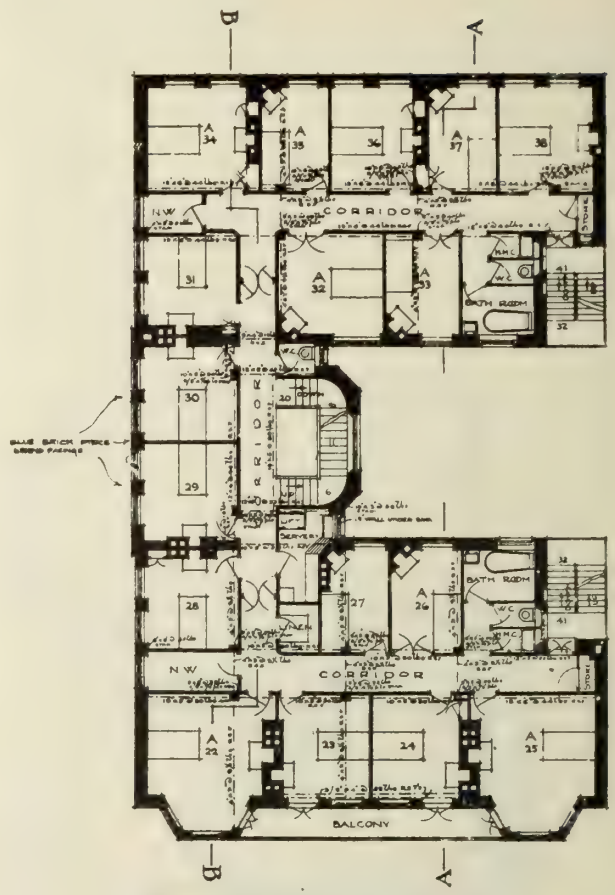


Fig. 5. Empire Hospital—Second floor.

posed in at least one somewhat similar institution—that only surgeons attached to the staffs of recognized hospitals may operate therein. The fees that are to be charged will, it is stated, vary from three guineas a week upward, according to the accommodation required, the maximum fee being in the neighborhood of ten guineas per week. These fees are, roughly speaking, about one-third less than those charged in "nursing homes," wherein the accommodation and equipment is distinctly inferior. But, of course, the attendant physicians and surgeons will charge their own fees, and are under no obligation to accept less than would be their custom elsewhere.

In a word, the promotors of this enterprise, while conducting their undertaking on strictly business lines, do not intend to make greater profits than will provide a reasonable return on the capital invested, and those who, like Lord and Lady Scarborough and others, have taken such a kindly and withal very practical interest in its organization, have a very sincere desire that their efforts may result in considerable alleviation of the manifold anxieties that serious and surgical illness entails on those who are neither rich nor poor.

Forty beds is no great number, to be sure, and there are several millions in London. But, still, new ground has been broken, something has been attempted in a new manner, and much care and attention has been given to the perfecting of details in a way that has not been dictated by the mere hope of finding pecuniary reward in interest on capital invested. The Empire Hospital, if successful financially, as all hope it may be, will pretty certainly be the forerunner of a long line of similar institutions. But, let it be remembered, it is free from all endowment or charity, and, to succeed, it must fulfill two requisites—it must, as doubtless it will—be efficient and it must pay.

F. G. Crookshank, M. D.,
Physician to the North-West London and Hampstead General Hospital.

LETTER FROM PARIS.

Paris Hospitals Unlike Those Elsewhere—Some Historical References—The Control of the Hospitals.

Paris, January 10, 1913.

There is no use trying to team up Paris with any other city in the world in any particular; it can't be done. In texture, consistency, color, modeling, thought, action and reaction, play, work, in sickness and in death, Paris is different from any other place. Compare Charkieh with Chattahoochee, or Kamchatka with Kansas City, if you choose, but let's not do any comparisons of the Paris hospitals with hospitals anywhere else. Bearing this in mind, then, we won't be shocked when we come here from Berlin, or Vienna, or London, or East St. Louis to make our rounds of the institutions in which the city of Paris cares for its sick poor.

All of the municipal hospitals and asylums of Paris are under the management of the Assistance Publique, the administration of which is situated at No. 3 Avenue Victoria and No. 4 Quai de Gesvres. The director is M. Mesurerv. The Assistance has control of over forty in-

stitutions, more than thirty of which are hospitals. The hospital beds number some 16,000. Some of the hospitals are large and some are small. The St. Louis Hospital, principally for skin diseases, has 1,480 beds for cutaneous affections alone, and also 58 beds and cribs for obstetrics, 464 for surgery, and 84 for medicine. In this hospital there are six chiefs of service for dermatology, each one serving one day a week in the out-patient department and following the admitted cases in the hospital the succeeding days. On the other hand, hospitals as small as the Hopital d'Enfants, with 38 beds, comes under the direction of the Assistance. A number of these general hospitals run from 300 to 700 beds, and among them we may include: Hopital Beaujon, 208 Faubourg Saint Honore, 543 beds; Hospice de Bicêtre, 1,852 beds; Hopital Bichat, boulevard Ney, 193 beds; Hopital Boucicaut, 78 rue de la Convention, 237 beds; Hopital Broca, No. 111 rue Broca, 307 beds; Hopital Broussais, 96 rue Didot, 275 beds; Hopital de la Charité, 47 rue Jacob, 596 beds; Hopital Cochin, 47 Faubourg Saint Jacques, 500 beds; Hopital des Enfants-Malades, 149 rue de Sevres, 636 beds; Hotel Dieu, 607 beds; Hopital Laennec, 42 rue de Sevres, 596 beds; Hopital Lariboisière, rue Ambroise Paré, 970 beds; Maternité, 119 boulevard de Port Royal, 207 beds; Hopital Necker, 151 rue de Sevres, 454 beds; Hopital de la Pitié, 83 boulevard l'Hopital, 880 beds; Hopital Saint Antoine, 184 Faubourg Saint Antoine, 815 beds; Hospice de la Salpêtrière, 47 boulevard de l'Hopital, 3,834 beds; Hopital Tenon, rue de la Chine, 878 beds; Hopital Trousseau, 158 rue Michel Bizot, 317 beds.

There are also several hospitals for contagious diseases, as the Hospital Claude Bernard and the Bastion, and even hospitals outside Paris, like the well-known Hopital Maritime de Berck-Sur-Mer, the hospice de Brevannes, Seine-et-Oise, which provides for tuberculosis and convalescent infants, and the hospice des Incurables, with 2,323 beds, at Ivry.

The most interesting thing about the Paris hospitals is their age. I have said in a previous letter that the great hospitals of Berlin are newer and more modern than our own. The Virchow Krankenhaus and the Charitè (as it stands today) are products of the last ten years. But here in Paris you will walk back into the middle ages frequently when you pass the gates of a hospital. Take the Hotel Dieu, for instance, which was founded in the seventh century. Of course there have been changes in the buildings since then; it was reconstructed in the twelfth century, and again in 1865-1877. Still, until the sisters of charity were driven out of the hospital a few years ago, much of the ancient atmosphere remained.

Then there is the old Saint Louis, ordered erected by Henry IV in 1607 for the treatment of the pest in honor of the king Saint Louis, who died from this disease. The battered old gray stones of the pavilion of this hospital look as old as the Roman ruins in the garden of the Cluny. Again, there is the Salpêtrière, erected by Louis XIII. for an arsenal, and getting its name because saltpeter was made there. Louis XIV. reopened it as a general hospital. Some of its buildings date from 1654.

But it is inside such old gray walls as these that one sees a type of hospital life that touches his sentimental side in the way the German or the Englishman, or even the American, has little conception of, although he may have passed much of his life within hospitals.

As an example of what I mean, let me translate briefly the description of the Maternité Hospital, from Hellé, by Marcelle Tinayre.

". . . and we found ourselves in the cloister, which incloses on three sides the interior court of the hospital. A gallery ran below the arcade, and I perceived on the whiteness of the curtains the silhouettes of the inmates, of nurses laughing in the sun, with their plump babies. For a moment the odors from the kitchen and the pharmacy spread up the stairs. The maids pass, bearing baskets of plates and milk in iron vessels that strike together noisily in the sonorous gallery.

"Near the kitchen a great door opens on to a garden of yoke elms arranged in the style of the seventeenth century. We mount a majestic stairway, the steps of which have seen pass processions of religious **jansenistes**, and we stop at the stair head before a door bearing this inscription, 'Salle Baudelocque.'

"This room, which we enter, does not resemble the rooms of the new hospitals. Formed of old cells, of which one has destroyed the partitions, the room presents itself as a sort of lobby between a double series of opposed lodges, painted a soft green. Each logette is lighted by a large window and contains a bed and a cradle. In each bed there is a woman; in each cradle, a new-born. The atmosphere is sweet, heavy, and saturated with the odor of antiseptics. At times, among the whispers of the visitors and calls of the patients, a shrill cry of an infant mounts the long hall. An increasing light falls from the high windows on the pale figures and the white linen.

"Seated on their bed, some of the women talk with their visitors, who roll between their hands the traditional humble present, oranges wrapped in silk paper. They were the wives of workmen or small clerks of humble means, who came there habitually for the fifteenth or sixteenth time. They kept their infants, of which one sees only a bit of red flesh in creamy gown, and the first-born stand behind their fathers, stupid with surprise, their eyes large and round.

"There were others alone in their little room, and they appeared to expect no one. Some of them were very young, with the naive eyes of rustic madonnas, still tanned by the air of the fields. Some of them were almost old, of whom the gray hairs, the wrinkles, and the faded bosoms assailed my regard. Some of them were like savages, long in the flank, their fists doubled in their hair, closing their eyes in submission like sick beasts; others of whom the beautiful teeth have had too much laughter, and others of whom the tragic eyes have had too much tears. Each looked at me in passing, with envy, with curiosity, with indifference, and I tried to imagine the destiny that had brought them there, this lamentable maternal herd, wreckage of misery and of love, by whom life and suffering perpetuates itself."

Coming back to earth, let us see how these hospitals are conducted. First, as I said before, there is the Assistance Publique. This organization consists of a *counseil ed surveillance*, composed of thirty-three members plus the préfet of the Seine and the préfet of police. The hospitals, each and every one, must be conducted absolutely and exactly under rules and regulations laid down by this body. The director of this body, at present M. Mesureur, is an autocrat. Theoretically, at least, he alone possesses authority for every detail of hospital administration. Only he can employ and discharge help, authorize repairs, or expend a sou in any way. Of course he has his personal representative in every institution, but there is much red tape to be unrolled before even a worn door latch can be replaced. First an investigation into the life history of that door latch would have to be made; then an inspector would be detailed to make a physical examination of said latch. Provided the prognosis was bad, the official architect would

be called in to make an estimate on a new latch, and then finally, after looking over all the evidence in the case, the director-general would decide whether the hospital should be allowed a new latch.

Naturally, under such circumstances there is no conflict between the administration and the medical and surgical staff of a hospital, because the medical man don't even have a look-in as far as administrative affairs are concerned. As a doctor, he is supreme in his ward, but he has to accept that ward just as it is and with just what happens to be in it.

Coming to the medical personnel of the hospital, we will first consider the relation of the university to the municipality from the standpoint of care of the sick and education. First of all, it may be stated that the university has no control of any of these institutions in the sense that they do in Germany. It is only by consent of the Assistance Publique and under certain conditions that a given number of wards in various hospitals are turned over to professors in the university to use as they see fit for clinical instruction. For instance, a medical service is assigned to the university at the Hotel Dieu, Laennec, Saint Antoine, and the Beaujon; there is a university surgical service at the Hotel Dieu, La Charité, Necker, and La Pitié; there is an obstetric service at Tarnier and Bandelocque; one in skin diseases at the Saint Louis, pediatrics at the Enfants Malade, genito-urinary at Necker and gynecology at Necker.

R. L. Thompson, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

[To be continued]

LETTERS TO THE EDITOR.

The "Pure Drug" Law and Soap.

To the Editor of The Modern Hospital:

When Congress passed the pure food and drug law, it included two soaps classed as drugs. The soap that is extensively used in surgery and for many skin troubles, besides being good for a multitude of household uses, comes under this drug act. It has been known for many years as the physicians' and surgeons' green soap or green oil soap.

To the majority of people this name may suggest that the soap is green in color, while in reality it is a golden yellow, transparent soft potash soap. The name is a technical name given it years ago, designating a standard make for special uses of the physicians. The name does not indicate the color.

Of late years the people are learning of the many medical uses of green oil soap. When the physician requests his patient to use green oil soap (in many cases under my observation), they go to the merchant to buy this potash soap, and are given a green-colored soft soap, a soap that is artificially colored. Perhaps the merchant thinks this is "green soap," and the customer uses it thinking the same, and serious consequences result from the color in the soap. Sometimes the soap is adulterated as well as colored.

If the soap is sold within the state, the federal government cannot do anything to protect the people. Our state legislatures should be encouraged to enact laws prohibiting the adulteration or coloring of this standard potash soap, so long known and recognized by this technical name. At any rate, will you be good enough to publish this so that the many readers of your journal will know what to look for when they ask for this kind of soap?

Wilber M. Kelso, Oak Park, Ill.

Sterilization of Rubber Gloves.

To the Editor of The Modern Hospital:

In reply to the article on the sterilization of rubber gloves in the "Queries and Answers" column of the December number of your journal, I wish to say that for many years it was a problem with us how best to sterilize them for the surgeon's comfort, and at the least expense to the hospital, as we furnish all the gloves used in the operating room. After very careful and exhaustive inquiries in many large institutions, we finally tried sterilizing them by steam, fifteen pounds pressure, for fifteen minutes in the autoclave, and have taken cultures from the inside repeatedly and have always found them sterile.

We make an envelope that is eight inches long and nine inches wide, folded so as to make a pocket on either side, with the name of the surgeon plainly written on the outside. A glove is put on either side of this container after being thoroughly powdered, care being used not to leave any loose powder in the fingers. This is then folded on itself and put either in a tin drum or in tin boxes, a complete layout for each operation.

We have taken cultures from the inside of gloves that have been sterilized and left in the drum for a week, and have found them absolutely sterile. Some of the gloves have been sterilized twelve or fifteen times, and, instead of using more gloves, by this method over the old method of boiling, we have reduced the cost of gloves for the last year to quite an extent. After the gloves have been used for operation they are thoroughly washed in soap and water, and, if the case has been an acute pus case, they are boiled for ten minutes, and then dried by a clean person and powdered.

Mrs. H. J. Ewin,
Supt. Free Hospital for Women, Brookline, Mass.

Italy's Tribute to Florence Nightingale.

The recent unveiling in the church of Santa Croce, in Florence, of Sergent's beautiful sympolical statue "Watchfulness" pays another tribute to Miss Nightingale. The inscription is in Florentine type and reads as follows: "Florence Nightingale, 1820-1910. Heroine of the Crimea. 'The Lady of the Lamp,' as the soldiers called her whom she tended in hospital, in the night watches, with wondrous, anxious care, and thenceforward by the force of her example was the moving soul of that voluntary work of international piety known as the Red Cross. This tribute of veneration and respect is raised to her memory in Florence, where she was born, and whose name she bore."

Public Rest Rooms.

Dr. R. Sommer, in volume X, No. 4, of Hachl's Contributions to the Study of Nervous and Mental Diseases, calls attention to the influence of hurry and nervous tension in producing nervous and mental disorders, and recommends the establishment of public rest rooms in the business sections of the city. They should be quiet, clean, easy of access, have separate rooms for the two sexes, and should be cheap. There should be portable rest rooms that could be used where great buildings are being put up and in connection with industrial establishments, for there is no doubt that fatigue plays a part in causing frequent accidents, decreased ability for work, early incapacity for work, and predisposition to infectious diseases, such as tuberculosis.

NEW EQUIPMENT

New Out-Of-Door Bed.

The chief value of this new sleeping device is that it permits the occupant to dress and undress in comfort. Ever since the medical profession decided some years ago that the cure for consumption and good health for those with weak lungs and a predisposition or hereditary tendency to tuberculosis depended much more on pure air and a sanitary environment at home than a residence somewhere else, out-of-door sleeping has been popular.

In most tuberculosis hospitals patients sleep on open porches, or porches with a roof, but not walls. Window tents, sleeping bags, and all sorts of devices are employed for the purpose, both for well people and for those actually suffering from some form of the great "white plague." But there is such a thing as too much exposure, and in most sanatoriums it has been a problem how to let patients sleep out of doors, well wrapped up, and at the same time make it possible for them to get up in the morning in a warm place.

Colonel Gignilliat, superintendent of the Culver Military Academy of Indiana, seems to have solved the problem. The large illustration (Fig. 1) is a very clear picture of the method. It is nothing less simple than a bed built close up to an ordinary window. There are end walls at the head and foot running up six or seven feet, a roof over the bed, and a large window on the room side; thus the bed is simply a bed with high, solidly built up head

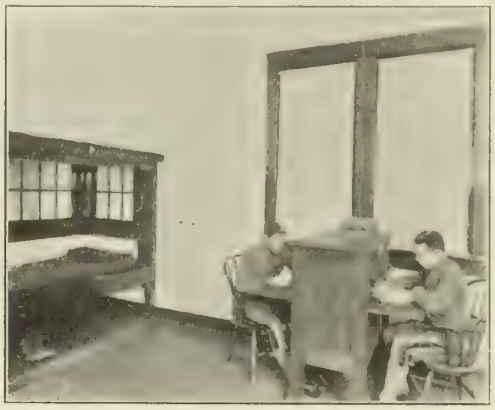


Fig. 2. Out-of-door bed as it appears in the day time.

Fig. 1. Out-of-door bed as it appears at night when in use.

and foot, and a window on each side. The under part of the bed is left open, so that the heat of the room can always keep the bed warm. When the patient is ready for bed, having undressed in a comfortable room, he gets into a comfortable bed, closes the window on the room side after him, using the rope and pulley, as shown in the illustration, and opens the outer window by the same method. He is then out of doors, with all the benefits of the open air, but his bed is kept warm from the bottom, since it is inside the room.

The small illustration (Fig. 2) shows the bed as it appears in the day time, with open space underneath. It occupies hardly more space than an ordinary window seat, and can be built in by any house carpenter.

Colonel Gignilliat has had twenty-four cadets sleeping in this sort of bed for several months. He has told the *Journal of the Outdoor Life*, to which we are indebted for the illustrations, that these young men have shown greater capacity for work than the others, that their health has been better, and that they are making higher grades in their studies.

Fig. 2. Showing the alternate layers of wood.

Improved Sanitary Toilet Seat.

One of the petty problems that hospital administrators have to annoy them constantly is that of clean, neat-looking, sanitary, and odorless toilet seats and bowls. The accompanying cuts show a new device. Briefly, it is a lid and a toilet ring all built up of wood. In the alternate layers of wood that make up these pieces the grain runs in different directions, so that the piece, when completed, will not split. After the divisions are built up they are covered with a composition exactly the same as that used for making billiard balls. It is set into and on the wood in a molten state, and really becomes so intimately connected with the wood that the two cannot be forced apart.

Just as billiard balls are made of different colors, so the composition in these toilet seats is to be made of various colors, and it is announced that colors will be black, mahogany, brown, and circassian walnut. It is said that this toilet seat will last for a generation. The hinge part is attached to the seat and lid in such a way that the process of cleaning can be accomplished without difficulty, and so that every part of the mechanism can be reached.

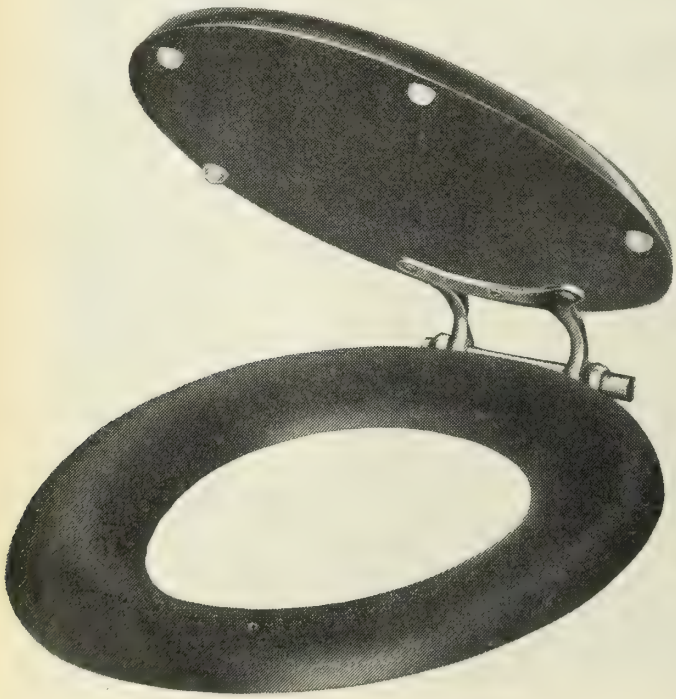


Fig. 1. Improved sanitary toilet seat.

The Brunswick-Balke-Collender Company, makers of billiard tables and billiard room equipment, including billiard balls, say that their new device cannot be hurt by stains or alkalies, or acids of any kind, and that it will remain in a highly polished condition under the action of soap powders, boiling water, or any other cleaning material ordinarily used.

Architects, hospital administrators, and hotel people have all felt for a long time that the toilet seat problem had not been solved. Let us hope that this new device will furnish a solution.

Apparatus for Maintaining Proper Temperature in Irrigating Solutions.

One of the surgical problems in every hospital, and one that is constantly brought squarely up to the superintendent of the institution, is that of maintaining proper temperature in irrigating solutions. The old way was to use the open-glass percolator, with a loose-fitting lid, and a rubber tube leading from the bottom. It is even now a common sight in hospitals to see these irrigators surrounded by hot water bottles, which are generally held in place by bandages or adhesive plaster, or in many cases great strips of gauze.

A vast improvement over the old method was the Greensfelder inverted thermos bottle. The water in the thermos bottle, by this method, was maintained at practically an even temperature for many hours, and was thought to have solved the problem, but when the drop method was used the water was generally cold, traversing five or six feet of rubber tube, before it got to the body.

Meinecke has recently found a much better and apparently perfect solution of this problem by running a metal tube through a metal hot water bottle, the bottle itself to be located close to the patient. The illustration shows this device. The metal tube running through the water bottle

is made a part of the latter with solder. The rubber tube is attached at either end, thus making a continuous tube. The water in the bottle being at a little higher temperature than required of the irrigating water, this last can be kept constantly at a sufficiently high temperature up to

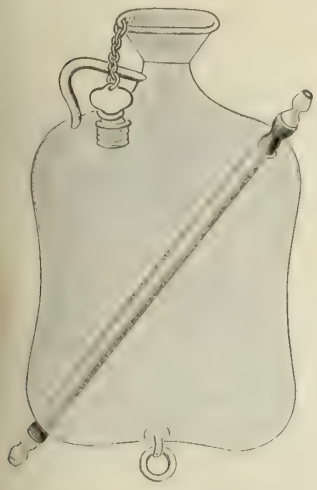


Fig. 1. Hot water bottle.

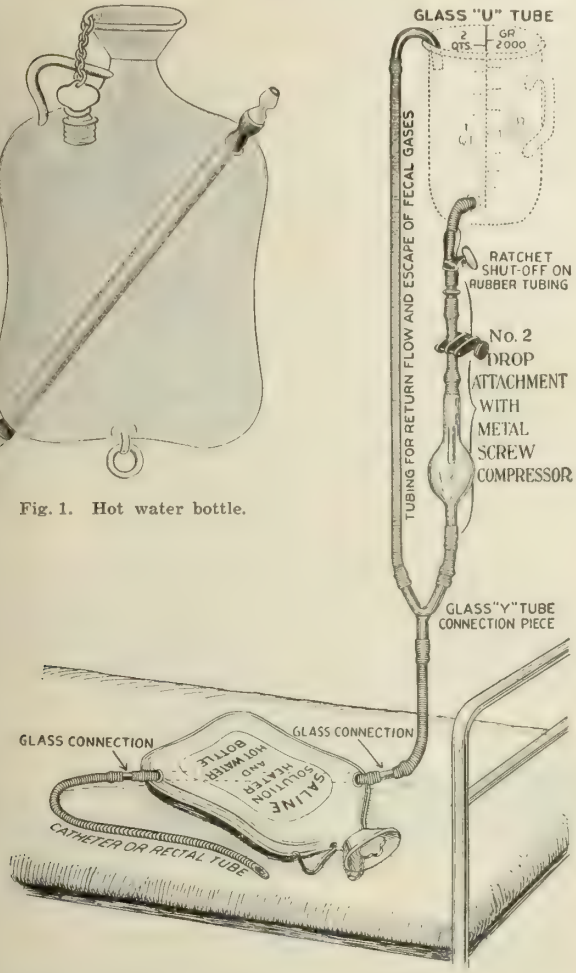

GLASS "U" TUBE
2 QTS
GA 2000
TUBING FOR RETURN FLOW AND ESCAPE OF FECAL GASES
RATCHET SHUT-OFF ON RUBBER TUBING
No. 2 DROP ATTACHMENT WITH METAL SCREW COMPRESSOR
GLASS "Y" TUBE CONNECTION PIECE
GLASS CONNECTION
GLASS CONNECTION
HOT WATER BOTTLE
SALINE SOLUTION HEATER AND
CATHETER OR RECTAL TUBE

Fig. 2. Irrigating device in position.

the time it reaches the patient. The second cut shows the solution in use with the percolator at the top, and the end of the tube extending beyond the hot water bottle for injection into the cavity to be irrigated. This arrangement seems to meet every requirement in an irrigator for surgical purposes.

King Clovis, whose Frankish hordes swept down from the North with barbaric ferocity, subdued his less fierce but more civilized neighbors of the South; but, while he was absorbing their lands and their wives, he and his armies also absorbed the Christian religion, and, while resting between wars of conquest, he built hospitals. He had paintings made of himself with a sword in one hand and a cross in the other.

The "valetudinaria" of pagan Rome were the first dispensaries of which we have any authentic record. They were for the care of sick soldiers and slaves. Mostly they were out-patient stations to which the sick reported for medicines. Reports were also made there by well people concerning the sick back in the homes who were not able to report in person. The priest or an assistant then went to see them.

NEW INSTRUMENTS *and* APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

A New Pneumothorax Apparatus.

By Dr. Samuel Robinson.

The operation of producing artificial pneumothorax is gradually being performed more frequently in this country, and consequently a great variety of apparatus have been described and advertised. Some of these are very complicated and difficult to operate, while others are so primitive in their construction that they are actually dangerous. The apparatus shown in Fig. 1 seems to overcome these objections for the reason that it is comparatively simple, and yet a safe device to use if handled with only ordinary care. Two bottles of 2,000 c. c. capacity are employed. One is stationary and filled with water containing 2 drams of pyrogallic acid to take up any oxygen which may enter in conjunction with nitrogen. Nitrogen gas is then forced into the stationary bottle (Fig. 1, A), displacing the water back to bottle B. At completion of this dis-

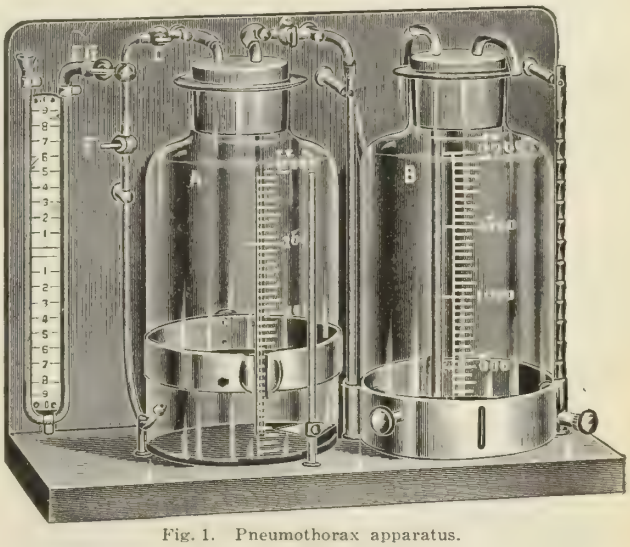


Fig. 1. Pneumothorax apparatus.

placement the apparatus is ready for use. On opening certain cocks, the water in bottle B replaces the nitrogen in bottle A, gradually filling it. The difference in the water levels of the two bottles represents the pressure under which the nitrogen is injected, the rapidity of its injection being regulated by the size of the opening in any of the cocks. When bottle B is full, the maximum pressure is obtained, amounting to about 14 c. c. of water. As the water levels approach one another, bottle B should be raised, thus maintaining the pressure until most of the nitrogen has been displaced, when the pressure is necessarily reduced. With this hydrostatic mechanism the pressure may be varied at will, never attaining the dangerous limit.

The arrangement of cocks d, e, and f corresponds to the

substitution of a three-way cock at point g. In other words, with cock d closed and e and f open, a direct connection is established between the thoracic cavity and the manometer. With cock f closed and c, d, and e open, connection is made between the confined nitrogen and the manometer, thus recording the pressure represented by the difference in water levels of bottles A and B. With cock e closed and all others open, the nitrogen passes directly from bottle A into the pleural cavity.

This apparatus has the advantages of stability and portability. The fixation of all cocks and tubing to the backboard facilitates their opening and closure, while the use of rubber tubing with clips, such as employed in earlier apparatus, proved a constant source of annoyance.

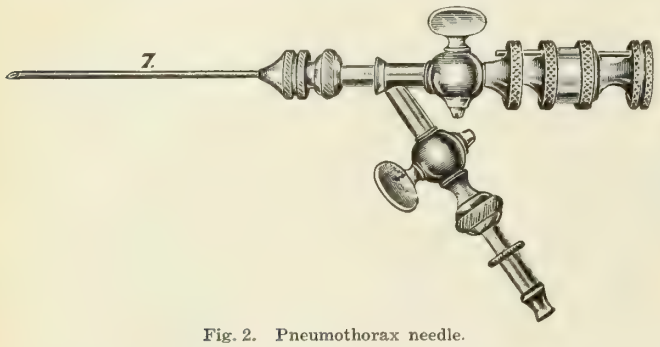
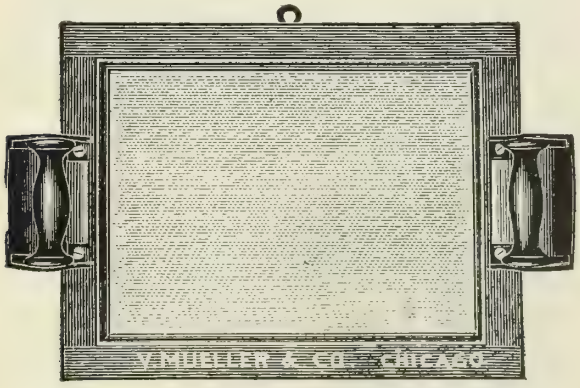


Fig. 2. Pneumothorax needle.

Fig. 2 illustrates a needle which Dr. Cleveland Floyd has designed for use in pneumothorax therapy. It is of the type of Brauer's needle, with, however, several changes in construction, which experience has demonstrated to be of value. The Floyd needle is sometimes made with an additional needle and obdurator of smaller caliber, which can be attached to the stopcock of the needle shown in Fig. 2. The smaller needle is used for reinjections, and may be made of steel or iridium-platinum. The apparatus is easily portable and is contained in a mahogany carrying case.

Dr. Rupprecht's "Astral" Fluorescent Screen.

The astral screen is made of a substance which, when exposed to the influence of roentgen rays, fluoresces in a similar, though somewhat more whitish, light than that which is observed from the bario-platino-cyanide screen under the same conditions. A layer of the substance is



Astral fluorescent screen.

uniformly spread on a sheet of cardboard mounted in a wooden frame in exactly the same way as is the case with the screens at present in use.

Careful and critical comparative experiments have been conducted by a number of experienced radiographers on astral and platino-cyanide screens of various manufacture and varying age, with the help of three different types of apparatus. The following results were obtained:

The intensity of the fluorescence of the astral screen is considerably greater than that of the platino screen. Greater clearness of image is, therefore, obtained with the same amount of current through the x-ray tube—that is, for obtaining an image of a certain clearness the tube can be run more economically.

The astral screen gives a considerably more distinct image, both as regards outline and as regards structure, and therefore greater contrasts are obtained. Consequently the image obtained by means of the astral screen is of greater value for diagnostic purposes than that obtained with the platino screen.

It is a well-known fact that bario-platino-cyanide screens have a disagreeable and expensive characteristic of becoming brown in color and of losing a certain amount of their fluorescent property when they have been exposed for a considerable time to the influence of the x-rays. The astral screen is free from this drawback. Due to its chemical composition, the fluorescent matter of the astral screen is not acted upon by x-rays. Indeed, it is not acted upon by any kind of light, and is quite immune to x-ray, heat, sulphuretted hydrogen, and hydrosulphuric acid.

A Portable Carbon Dioxide Snow Apparatus.

Carbon dioxide, in solid form, has been used quite extensively for several years past in removing various skin desired, a selection of different size cones being furnished used has been a drawback to some extent on account of the

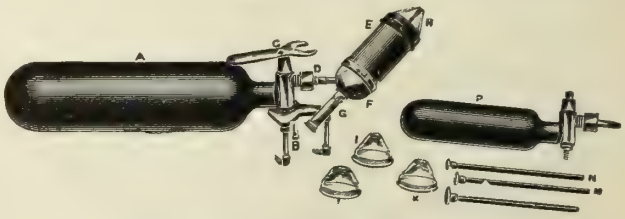


Fig. 1. Carbon dioxide snow apparatus.

size and weight of the equipment. The apparatus illustrated has been designed with a view of making a compact and light equipment, yet having all necessary attachments for applying the carbon dioxide. The apparatus consists

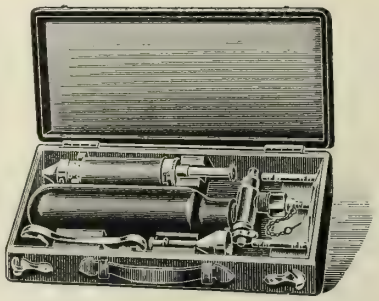


Fig. 2. Case for holding the carbon dioxide snow apparatus.

of a small steel container (Fig. 1, A), with capacity of one-half pound of CO_2. Attached to the container is the applicator E. On one end of the applicator is attached a cone having an opening of the size of the pencil of snow desired, a selection of different size cones being furnished with the equipment. On the opposite end of the applicator is a tube G, through which passes a plunger of correct size.

The instrument being assembled as illustrated, the gas

is turned on for a matter of three or four seconds, depending upon the amount of snow required. The applicator is then removed and held with the transparent cone pressed firmly upon a table or some other smooth surface. The snow is then firmly compressed into pencil form, the plunger serving as a holder in making application.

A New Type of Holder for Surgical Needles.

The illustrations show a new type of needle-holder which we have seen in use in many European clinics, and after examining the instrument carefully we came to the conclusion that it is one of the best needle-holders which we have ever seen. On account of the simplicity of the instrument it recommends itself at once to the surgeon.

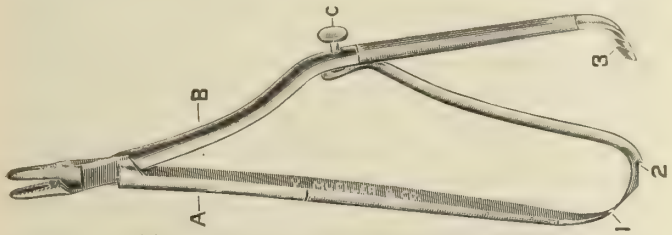


Fig. 1. Needle-holder for surgical needles.

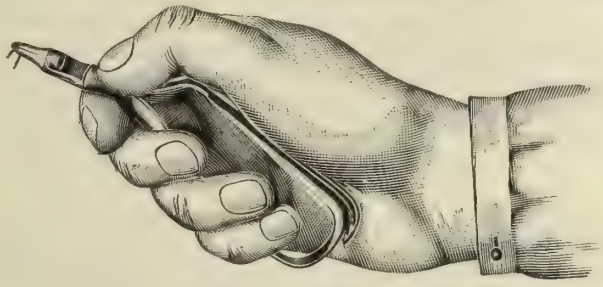


Fig. 2. Method of holding the instrument.

Fig. 3.

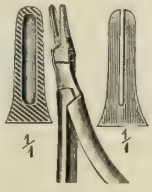


Fig. 4.

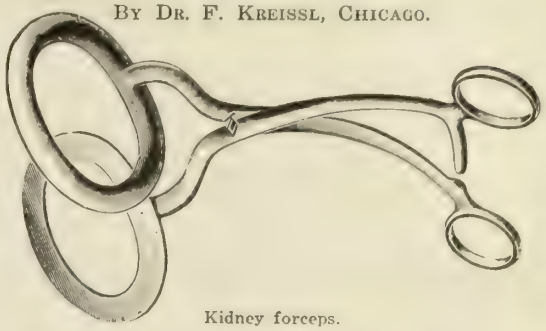
Fig. 5.

The needle-holder consists practically of two parts—the lower branch A and the upper branch B. The third part C (a push-button of noncorrosive material) is attached permanently, yet movable, to the upper branch B. The posterior part of the lower branch is thinned down one side (1), and acts as a spring, while on the other side is a catch (2), in which the catches on the upper branch (3) engage on closing. When the surgeon desires to release the needle, he presses on the push-button C. The shape of the instrument adapts itself comfortably to the hand, and there is no undue strain on the wrist of the operator, such as is the case with some of the instruments now in use.

The needle-holders are made in three sizes, 6 inches, 6¾ inches, and 8 inches long, and adapted for all types of needles, except Hagedorn needles. A special grasping point has been devised to hold this type of needle, as will be seen from the illustration. These instruments can now be obtained in this country under the name of the Simplex needle-holder.

New Kidney Forceps.

By Dr. F. Kreissl, Chicago.



Kidney forceps.

These forceps, when closed, have the shape of a canoe whose bottom has been removed. This construction permits of a firm grip on the kidney without bruising it or producing pressure on the renal pedicle, and facilitates manipulations directed toward the hilum, renal pelvis, and the upper end of the ureter.

CARE OF NEW YORK'S INSTITUTION CHILDREN.

Sixty Percent Were Defective on Examination, But Forty-four Percent of These Were Cured in a Few Weeks.

The New York City Health Bureau of Child Hygiene has just completed a physical examination of children in institutions under its jurisdiction, as follows:

Sixty-three institutions were visited; 14,697 children were given a careful examination, and a written report on each child was left with the institution for its information and use; 6,486 of the children were found to be normal and 8,211 were defective, but there were in all 10,884 defects, many of the children having more than one defect. The defectives were divided as follows:

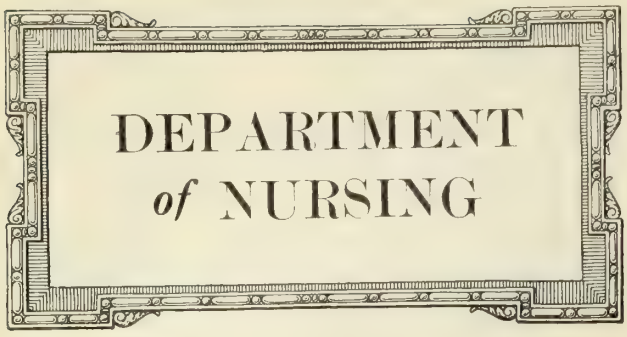
Defective vision	1,888
Defective hearing	91
Defective primary teeth	3,730
Defective permanent teeth	1,987
Defective nasal breathing	1,109
Hypertrophied tonsils	969
Defective nutrition	212
Cardiac disease	259
Pulmonary disease	363
Orthopedic defects	204
Nervous diseases	76

In the report of the examining bureau some interesting statements occur:

"In general, the percentage of defects noted is about the same as that found among children in the public and parochial schools, an exception being noted in the case of defective teeth. This defect was found among the institution children in only 38 percent of the cases, while among the children in the public and parochial schools 49 percent were found to have defective teeth. This condition is undoubtedly due to the greater attention paid by the institutions to defects of this nature.

"After each examination the institution authorities were furnished with a record showing the physical status of the child and its need of treatment. The medical inspector cooperated with the institution in obtaining assistance required by the attending physician, if such were needed. In this way much volunteer corrective work has been done by the physicians of the city and appropriate treatment has been obtained at an early date.

"In October these children were all reexamined to determine whether the treatment provided had had the desired result. It was found at that time that 2,730, or 44 percent of the children were entirely cured; 1,868, or 30 percent, were improved, while 1,593, or 25 percent, remained unimproved. Considering the brief time elapsing between the original examination and the reexamination, the percentage of children cured is remarkable, and indicative of what may be accomplished in safeguarding the health of children when it is possible to apply direct and prompt attention to their needs."



Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Newton, Mass.

Salutatory.

Possibly no other one subject engages the attention of so large a number of people as does the nursing care of the sick. From the rich, who can have their wants as well as their needs supplied, on through the long list of the world's inhabitants, past the people of so-called moderate means to the objects of charity in institution or home, all are interested because all are more or less affected, and all have their ideas of what should be accomplished and just how it should be brought about. Their conclusions are oftenest reached through their own experiences or those of their friends and neighbors, and are consequently warped by circumstances that are usually far beyond the control of nurse or nurse schools; but these experiences or honest ideas are entitled to the respectful attention of men and women who are interested, and it may be influential in bettering conditions all along the lines of modern nursing.

The physician, the hospital superintendent, the training school superintendent, the man or woman controlling or being controlled within nursing bodies, the layman and the sick world, are urged to consider the Nursing Department of THE MODERN HOSPITAL a medium for the transmission of thought regarding questions of nursing or those allied thereto—perhaps it may be by the presentation of a problem, or the solution of one already presented.

While it must be understood that the department does not expect to solve many problems, it hopes through its wider acquaintance to secure the one well fitted to do so. It hopes from time to time to be able to furnish its readers with information as to the possibilities of the course in the Department of Nursing and Health, Teachers' College, Columbia University. It will be recalled that this course had its inception in that oldest national nursing body, the American Society of Superintendents of Training Schools for Nurses, and was for many years almost wholly supported by contributions of its individual members. It would also cultivate a greater interest in that phase of university and settlement work which pertains in any way to the nursing question.

The great public health movement, including district and social work, the tuberculosis crusade, the nursing in army and navy, and under direction of the Red Cross—all command attention today and nurses are seeking information concerning them. Writers of any class or creed, as well as those without any pronounced beliefs, will be invited to a consideration of laws for the registration of nurses by the state from the standpoint of their necessity; their use and possible abuse; the good, the inadequate, and the poor laws may be discussed with equal and entire freedom, and the effects on the nursing schools of some of our laws will doubtless make interesting reading from time to time.

Training school work in its relation to hospitals, as well as in its relation to the nurse and the work she is to undertake after graduation, should occupy much time and attention because it is, after all, the foundation of all nursing work, whose influence is felt much further than at first appears. The obligations of the hospital and school to the nurse should be kept in view quite as prominently as are the nurse's duties and responsibilities.

In short, it will be the wish of the department to study all phases of this great work, and consequently it will invite general discussion along any line that tends to elevate and improve.

It has been said that President Eliot used the word "serviceableness" to sum up the mental and manual equipment necessary for an honorable and useful life. Apparently the word is made to cover the whole range of activity as well as the relations of individuals to each other and to the world in general. Should the columns of this department prove their "serviceableness" to the inquiring nurse or nurse teacher; should their words reach out to influence for good the care given the sick and maimed of our countrymen; should they, with this end ever in view, be able to plant and keep their standards upon high ground, THE MODERN HOSPITAL perchance need not regret the space occupied nor the time consumed.

The cooperation of hospitals, training schools, nursing organizations, physicians, nurses, and interested individuals is earnestly solicited and a place requested in their mailing lists for the department, that it may be in line to receive word of progress made and problems solved.

MARY M. RIDDLE.

The Joy of Vibrant Life.

Today health is recognized as a great essential in the world's work. Isabel Hampton Robb, in writing of the qualifications required in a nurse, says, "She must be strong mentally, morally, and physically." May I add that only by continuous care of that marvelous machine, her body, will she acquire the self-satisfaction of greatest usefulness. Upon the attention which she gives to this temple of her soul depends much of her mental and spiritual control.

In the course of her training to care for the sick she will learn much of value to herself, but it is not to be assumed that all who enter a school are at their highest point of physical development, or that those who are will remain so through three years' training, for we cannot remain stationary if we would. Either we advance or fall back. The wholesome food and regular life of a pupil nurse are in her favor, but the education of her hand, mind, and heart at once is an exhausting process. She needs relaxation, which refreshes, bringing to the muscle, tone, and to the mind, inspiring thought. If physical exercise which could do both were offered in a nurse's training, it would indeed be valuable.

One problem is to counteract the constant bending forward over patients by some game requiring backward movements. No one acquainted ever so little with a nurse's duties could doubt that she has sufficient exercise of a certain kind, but it does not tend toward graceful carriage of the body. Perhaps dancing, not the dancing as it takes place at entertainments, but folk dancing, may be the solution. Its value lies in the acquirement of coordination—in the training it gives in harmonious movement of trunk and arms as well as feet. Different move-

ments of the body must be executed at the same time, and this involves no small amount of mental training.

And where shall we look for the inspiring thought, for the mental toning up? She cannot readily get often to the best libraries and art galleries, or hear the best music, and yet she needs to be led on to higher things. Always she must be giving of her mind and heart as well as hand. Therefore let her realize that the music of the birds, the trees, and the whole out-of-doors is *the wonderful* music of the world; that the sunset and the ever-changing lights upon the hills are more beautiful than any painted picture. Invite her out of doors every day, but give her something to look for. All have not the trained eye of the botanist and the ear of the bird-lover. To walk in the open is good for mind and body, but, if one is to realize on the time thus spent, there must be joy in it. Play in the open air is ideal, and already tennis courts, skating rinks, and similar amusements are occasionally provided.

That the nurse should possess a well-modulated voice is generally agreed, but if, through conditions of modern civilization, she may have lost in part what nature gave, it becomes the duty of her training school to teach her the fundamentals of the science of tone-production. The nurse needs a quality of voice that will enable her to persuade, comfort, or reassure her fretful patient. Fortunate is she who already possesses it, but anyone may acquire it with proper understanding of the mechanism of the vocal organs and intelligent breathing exercises.

To realize her best self, the nurse must learn to walk, to stand, and to breathe so that she will produce a normal mental poise—to let the finest things that God has wrought in her shine forth.

Nursing in Contagious Diseases.

FRANCIS GEO. CURTIS, M. D.
CHAIRMAN NEWTON BOARD OF HEALTH.

The modern theory as to the method of transmission of infection in the so-called communicable diseases will undoubtedly have a marked influence over the nursing of these diseases, both in institutions and private homes.

The older theories of the transmission of infection are being discarded by an increasing number of men, who believe that it is transmitted by contact alone and not through the air or by means of fomites.

A belief in these latter methods of transmission is responsible for most of the rules in regard to communicable disease laid down by boards of health, but with increasing belief in contact as the means of transmission has come a change in methods. In order to understand this change, it is necessary to define carefully what is meant by contact infection. The Committee on the Study and Prevention of Communicable Diseases appointed by the Municipal Health Officers' Section of the American Public Health Association has defined these terms as follows: "By 'contact infection' is meant the transmission of infection by means of a person or article which has been very recently in contact with the patient or his fresh discharges, as well as by direct contact with the patient himself." "By transmission of fomites is meant its spread by means of articles which retain the infection for a considerable period of time."

This definition of contact infection differs somewhat from that commonly accepted, in that it includes freshly infected articles. As the belief in this method of infection has grown, changes in the methods of caring for communicable diseases have occurred, and one of the most marked changes has been in the construction of contagious disease hospitals and in the details of nursing. Hospitals have been built where cases of different communicable disease are treated under one roof—sometimes in the same room. England and France have a number of such hospitals, while Germany and the United States are just beginning to build them. In the United States there are at present two examples of such hospitals—one the Providence City Hospital, at Providence, R. I., built under the supervision of Dr. Charles V. Chapin, superintendent of health, who is the leader of this work in this country, and the other the newly completed hospital at Jacksonville, Fla., the establishment of which is due to the efforts of Dr. Charles E. Terry, health officer of Jacksonville.

In these hospitals, as well as similar ones abroad, what may be called "aseptic nursing" is practiced, the same nurse caring for cases of different communicable diseases, taking certain precautions to prevent the spread of infection by contact. The statistics of such hospitals, in so far as they relate to cross infection, are fully as good as those of the older contagious disease hospitals.

The methods in use in these hospitals are, at first sight, rather startling to one who is accustomed to the older methods of caring for cases of communicable diseases. In some cases patients with different diseases are in adjacent beds, separated only by a screen or a barrier of tape; in others they are in small rooms called "cubicles," which open on a common corridor, the same nurse going from room to room. The principle which actuates the system is founded on the belief that infection does not pass through the air from bed to bed, but must be carried by a freshly infected article or by a careless person, and that this transmission can be prevented by observing certain rules.

Where the cubicle system is used, each room is equipped with certain articles for the use of the patient alone—these are a thermometer, drinking glass, hot water bottle, etc. Each room is equipped with running water, hot and cold, the supply controlled by elbow or foot levers and running from a mixing outlet. A gown for the nurse hangs just inside the door of the room. In ordinary visits to the room the nurse need not wear a gown, but, if she is to perform any work requiring her to come in contact with the patient or his bedclothes, the gown must be worn. After attending to the necessary duty, if a gown has been worn, it is removed and hung in its place, the nurse then goes to the basin and washes her hands with soap and running water as hot as can be borne, drying her hands on an individual towel, which is thrown into a basket. In the Providence City Hospital no disinfecting solution is used on the hands. Practically the only articles used by the patients in common are table articles and bedpans. The former are taken from the room after use, the remnants of food are thrown into the garbage bucket, and dishes and tray put into a steam sterilizer, later being washed. Bedpans are emptied into the hopper, washed with hot running water and put to soak in 1–20 carbolic for half an hour, when they are removed to the drying stand.

Each nurse on duty has a double locker in the basement—one for her street clothes and the other for her ward clothes. On coming on duty in the morning she removes her clean uniform and hangs it in the clean locker, and then puts on her ward uniform. On leaving the ward for meals or to go off duty, she removes her ward uniform, hangs it in the ward locker, then goes to her basin and washes her hands, as already described, and puts on her clean uniform.

The above is a hasty sketch of the routine technic of

the so-called aseptic nursing in contagious disease hospitals under modern theories, and it is at once evident that it differs very markedly from the old methods. If carried out more generally, it will have a great effect on all contagious disease nursing. The first effect is on the health and safety of the nurse herself, in that it minimizes the danger of infection. In most of the common contagious diseases it is admitted, even by those who do not fully accept the contact theory of infection, that the chief gate of entrance of infection is through the mouth and nasal passages, and that, leaving out of account those cases where it is carried by infected food, the hands are the chief carriers of infection. If, therefore, careful attention is given to cleaning the hands, one means of self-infection is removed, and the hands must be most carefully attended to in "aseptic" nursing.

Again, it is not considered that the nurse who faithfully carries out the rules, can be a menace to others by carrying infection in her clothing when she is off duty, and for this reason the irksome and vexatious quarantine usually imposed on a nurse who is caring for a case of contagious disease is relaxed, and she is allowed to go about freely in her hours off duty. This enables her to take exercise in the open air and to obtain recreation, which under the old methods were denied her, thus keeping herself in good condition and increasing her powers of resistance to infection. The rules of "aseptic" nursing are the same for all contagious diseases, and do away with the necessity of learning a lot of rules for each one. This same increased freedom may obtain in private as well as institutional nursing, and the nurse may take proper exercise in her hours off.

Another result of the more universal adoption of this form of nursing, with its decreased liability to self-infection and increased liberty of action, may well be an increase in the number of nurses who are willing to take up contagious disease work, and even tend to the establishment of a class of nurses in each community who make a specialty of such work.

One point is that this form of nursing requires very careful attention to details, which must be learned so that each one will be carried out automatically. This takes time and will lengthen the time required for service in the isolation hospital, but, having once been learned, it is seldom forgotten. This attention to details may seem unnecessary, but it is the little things that count, and it should be remembered that forgetting to wash the hands after handling the patient may be the cause of transferring infection to another.

This brings up another point which should not be overlooked, and that is the personal responsibility which is entailed by this method of caring for contagious disease. Everyone connected with the service, be it physician or nurse, is personally responsible for his or her actions. If a patient with one disease is found to have developed another, it is not looked upon as an act of God or that it was fated that he should be infected, but it is considered that some one is personally responsible for a failure to carry out the necessary precautions, and a rigid investigation is held in order to fix the responsibility.

This emphasizing of the personal element is a great assistance to the careful carrying out of the rules, for no one likes to feel that he or she is directly responsible for the illness of a fellow-being. It has another effect also in drawing attention to the fact that everyone who has anything to do with the care of the sick should give the best that is in her or him to the sick one, whether it be for his protection against infection or ministering to his comfort and helping him back to health, and the more the "personal fact" can be emphasized the better work will everyone be willing to do.

The House Beautiful.

Overlooking a valley that extends from the mountains to the sea is a narrow plateau which was originally guarded by forests. The beauty of the surroundings induced a wealthy manufacturer to build a stately mansion on its outlook, and to plant rows of elms that now arch over the long avenue that approaches the entrance to its doors. After many years the owner was taken from his home and gathered to his fathers, and the estate, through the generosity of the heirs and the liberality of the citizens, became the property of the Hospital Association. To its wide halls and spacious rooms come the sick inhabitants of the hill towns and the home city. The pure air, invigorating sunshine, and quiet, restful atmosphere of the whole place, with all the skill and care of physician, surgeon, and nurse, make it an ideal resort for those who have found themselves unequal to the task of balancing the two sides of the life and health account.

The results of its activity are not confined to the immediate walls of the hospital, but overflow into the channels of school and district nursing, and such emergencies as used to come within the largess of the old-time well-ordered home.

The special hospitals in the large centers are looking to the strong, sensible, bright-eyed pupil nurses of these small schools for assistance in carrying on their work. Such service is of mutual benefit, for it gives the pupil nurse an insight into conditions and methods that are foreign to the more quiet, secluded character of hospital experience in more remote towns and cities.

Within the last quarter of a century the hospital has found its way into the educational centers of college and preparatory school towns, the activities of thriving manufacturing cities, and even the wild surroundings of lumber and mining camps, and has become a power for good in teaching the community in which it is located how best to fulfill the laws of health. All honor is due to the members of the medical profession who so generously devote time, strength, and skill in advancing the best interests of these hospitals, whether on the medical and surgical staff or on the executive board of managers.

The hospital may be located in some very ordinary structure, or in the most approved plan of the modern architect; in either case it stands as a type of the House Beautiful, and it can never be complete without the trained intellect, warm sympathy, and skillful hand of a woman, whose province is to guide the affairs of its complex and complicated management.

In the heart of every graduate nurse there is an ideal of what such a woman should be, and, when her opportunity comes, let her strive earnestly to attain the "high calling" and aid in perfecting the House Beautiful.

Lucy L. Drown, R. N.,
Past Superintendent of Nurses, Boston City Hospital.

What the Leaders in Nursing Say.

In the vocational education for women the nurses have led the way. In the first place, you have come to your nursing—or you did in your earliest years—just because there was the great vital need of you. In your practice you found that it wasn't enough for you to apply the bandage, or administer the medicine, or make the bed, or merely follow directions. You found that you must know

more in order to act wisely and intelligently when you were alone. And so you added to your work by the bedside all manner of class instruction. You wanted to know why the sick room had to be kept sanitary, why you disinfected, why you prepared the operating room in a certain way. So you had class after class, and in the midst of heavy work took the hours to study, which make you more intelligent and able in your profession. Cooperation among institutions in behalf of nursing is one of the vital points for consideration.—Dean Arnold.

We are forced to the conclusion that there is little chance for any substantial progress in nursing education under the present arrangement. It would be unreasonable to expect that the hospitals would turn their scanty enough funds toward the building and furnishing of class rooms and laboratories, and the support of large faculties of instructors. They furnish us the most valuable possible laboratories, with opportunity for observation and for practice, that we cannot value too highly or too securely maintain. The conditions of which we complain are not inseparable from that service. If industrial corporations and universities can arrive at equitable and effective methods of cooperation, it should not be impossible to philanthropic institutions and schools of nursing. This problem of nursing education is too heavy a problem, and too fraught with momentous possibilities for public good or public ill, to rest entirely on the shoulders of one body of women. It is the people of the country, not the teachers themselves, who support teaching education, and we have seen that the same is true to some extent of agricultural education, of engineering education, of domestic science, etc. There is a distinct tendency toward the state control of vocational training. Certainly, if state support is to be distributed according to need, or according to the importance of the public contributions rendered, there are few vocational schools which should receive more ample endowments than the future schools of nursing.—Isabel M. Stewart.

In all the professions we are going through a pretty rapid evolution. Old standards are giving way to new. More and more we are coming to appreciate; not merely for the sake of the worker, but for the sake of society which that work is to serve—the desirability of broad equipment. In no other profession, I suppose, has a finer spirit of devotion been shown than in that of nursing. In the older days, when we had no science, no accumulated knowledge, the tender touch and the fine sympathy and the painstaking ministrations of the nurse represented the maximum contribution possible to human service. But today we should say that, supplementing that fine sentiment and fine devotion, the person who undertakes to follow the career of nursing without a grasp of the accumulated knowledge which the world has put at our disposal would be falling far short of any reasonable measure of human service.—David Snedden, Massachusetts Commissioner of Education.

True progress, in the largest sense comes, most rapidly by acknowledging good work wherever it is found, and by learning to follow the good example. Fifty years from now nurses will look back and say that we did not know very much about nursing in the first decade of the twentieth century, even with the twenty-five years of pioneer work that lay behind us. Nevertheless, the more faithfully each one of us does her own individual work of today, the more rapid will be the growth of this great movement—the art of caring for the sick—which already has exercised so vast an influence in all countries on the social conditions of the state and of the city and of the town, and on the social customs of the family and of the neighborhood.—Linda Richards.

That any kind of a hospital which does its duty by its patients has a perfect right to exist would seem to be beyond question. Nevertheless, it must be insisted that each owes a duty to the public as well, and must be open to commendation or censure, according to the system employed in providing proper nursing for its sick. . . . Some women are given the popular term "born nurses" when they are especially remarkable for good sense and adaptability; but we know that nurses are *made*, not born, and the rule has but few exceptions that it is the woman whose general education is the best who is able to do one particular thing best. If this be true in the simplest things, how much more is training required for work as complicated as nursing.—Isabel Hampton Robb.

My first proposition is that the dignity, and we might say the value, of any subject is to be determined by the quantity of theory in it. You all remember the young man who was called to open a safe. The combination had been forgotten. He tapped it with a hammer here and there for a few minutes, and, listening, heard the bolts moving back and forth, and finally, at the end of a half hour, opened the safe door. He sent in a bill for $25.50—50 cents for the mechanical work and the time and $25 for knowing how. Now, that is the worth of theory. The knowing how, why, and when to act is the gateway of the whole situation, and the dignity of any field is found in the richness of the theory in that field; or, in other words, is found in the amount of thought required.—Professor McMurray, Teachers' College.

The tendency of the times in all forms of work, both mental and physical, is "With labors assiduous due pleasures to mix." . . . When a young woman chooses a certain school or college in which she is to spend three or four years of her life, she expects to find within the environment of that school opportunities of a social as well as an educational nature—no doubt more of the former than she is able to take advantage of will be provided. Training schools for nurses have been slow to recognize the necessity as well as the advantage of furnishing within their own precincts social privileges for those under their charge. The lack of a pleasant atmosphere in the home life may sometimes, not always, be given as a reason for the objectionable interests chosen by nurses outside their school life.—Jessie E. Catton.

I would say that power is not so much a matter of rule as it is of knowledge. So, when we are conscious of lack of power to realize our ideals, let us look within and see where we can elevate resourcefulness, let us inform ourselves more about the psychology of the environment in which we find ourselves. Do we perceive the point of view of those who differ from us? If we do, and are still convinced that what we strive for is right and feasible, let us attack the weak spot in the opposition and win our adversary by logic and reason. Sometimes a field must be abandoned, but surely not until every effort has been made to succeed in the work which we have undertaken.—Sara E. Parsons.

A woman, to be a nurse, requires education, tact, good sense, good manners, and good health.—Dr. S. Weir Mitchell.

The new Miami Valley Hospital for social and contagious diseases at Dayton, Ohio, will be ready for occupancy by February 1. The hospital is not expected to be self-supporting, and the city is planning to provide the necessary support.

QUERIES and ANSWERS

Effect of Blood Stains on Fabrics.

To the Editor of THE MODERN HOSPITAL:

Do blood stains destroy cotton and linen fabrics, or is it the use of chemicals in the shape of bleaches, to remove them, that destroys the goods, and what is the remedy?

T. W. B., New Orleans.

Blood contains a good deal of iron under normal conditions. In clinical practice we use the hemoglobinometer to determine the amount of iron, and determination of the amount or percentage very often fixes the diagnosis of a disease. When the blood is released from its normal element, the body, it begins at once to undergo certain chemical changes, and it is in course of these changes that the iron becomes released and forms oxides, the same chemically that we know as rust. You can see the effect of this iron on fabrics by observing the operating room white coats and trousers; wherever there are metal buttons, the fabric will rust. You notice this more when the goods come from the laundry, because water is necessary to set iron rust to work. But not all the eating of fabrics is done by the iron alone; much of it is done by the acids and bleaches in the laundry in attempts to remove the stains. The cure, of course, is to get the blood off the fabrics at once, and before it dries—that is, before there are any chemical changes.

Problem of Securing Good Help.

To the Editor of THE MODERN HOSPITAL:

We have been having a great deal of trouble with our common male help. Recently we increased the wages of floormen and janitors from $25 to $40 per month, hoping thereby to obtain a better class of men. It has not worked out so, and if anything, the men obtained under the new wages are worth less than the others. Is our experience unique, or is this the common experience, and, in any event, what are we to do about it?

M. A. B., St. Louis.

It seems that the help problem is almost a personal or individual affair. The source of supply appears to be the greatest factor. I have in mind one employment agency that has proven very reliable for me; it handles foreigners exclusively—Poles, Scandinavians, and Germans, and also some Balkan immigrants. The Scandinavians and Germans make the best help until they learn to speak English. Then they are able to make more money at other occupations, and they leave. It is my own experience that about one out of ten men hired will prove satisfactory, and occasionally I have got hold of one who would easily do the work of three loafers and time servers; then I raise this man's wages gradually until he is getting enough to make him a fixture for life. One loafer will eat as much as a good employee, will generally steal from you—money or its equivalent, as well as time—and is a bad example to all others. Such a man will often operate a regular system to teach the subtle art of loafing to other employees, and he is sometimes a philosopher and can instill his philosophy into the minds of the other help. Presently you will have a completely educated corps of loafers, who will actually prevent any good employee from doing good work.

Eternal vigilance and the systematic laying out of the tasks is the only method by which to measure your people, and a weeding out of the loud-mouthed, self-assertive leaders of the help will do the rest. Better change your system of pay; start your men in at the bottom wages; know all about them when you hire them; tell them they will be advanced in wages as rapidly as they become efficient; give the good man something to work for. The common help are quite as human as the rest of us.

JOHN A. HORNSBY.

Carbon Versus Tungsten Lamps.

To the Editor of THE MODERN HOSPITAL:

Which is cheaper and more efficient, 16-C. P. carbon lamps at 15 cents, with free renewals, or tungstens at 60 cents without renewals? A. L. W., Baltimore.

There is evidently a mistake in the price named for tungsten lamps. Let us assume that we are considering 16-C. P. carbon lamps, with free renewals, versus 20-watt tungsten lamps at the list price (which is subject to a discount if bought in quantities), 35 cents.

The two lamps are about equal in the amount of light given out, and will doubtless offer better distribution than if a lesser number of larger units are employed. We will also assume that the tungsten lamp is burned at the middle voltage named on the lamp. The life of the lamps, excluding losses from breakage, will not differ greatly. Suppose the cost of current to be 6 cents per K. W. hour, which is a fair average price. We have:

1 20-watt tungsten lamp	$0.35
800 hours current consumption or 16,000 watts at 6 cents per K. W. hour	.96
Total cost 800 hours 16-C. P. illumination tungsten lamp	$1.31
1 16-C. P. 57-watt carbon lamp	$0.00
800 hours current consumption at 6 cents per K. W. hour	2.73 6–10
Total cost for 800 hours 16-C. P. illumination with carbon lamp	$2.73 6–10

LOUIS R. CURTIS.
Superintendent St. Luke's Hospital, Chicago.

Good Soap Composition.

To the Editor of THE MODERN HOSPITAL:

The question of cleaning powders and soap has been bothering me a good deal. It seems this matter of soap is a very technical question. I, for one, do not understand the chemistry of soap. A salesman recently told me that "suds" had nothing to do with the value of soap. Is this true, and what is the real test of good soap?

H. M. G., Chicago.

Suds has very little, if anything, to do with the value of soap. The most effective soaps do not make a lather, and many excellent soap manufacturers have to strain their consciences when they make lathery soaps in response to the demand of some housekeepers. We are getting away from the suds idea very rapidly.

We now think more about real soap values—namely, the combination of good animal and vegetable fats with a potash or soda alkali, or lye, and the proportions of these combinations must be right. One of the commonest practices in soap adulteration is to put in an excess of "lye" or potash to make the soap carry a large amount of water. With this excess of water can be carried the cheap so-called fillers—resin, grit, and refuse of packing houses. In this kind of soap you are paying soap prices for water

and these cheap fillers. You will get plenty of suds with these cheap soaps, but they do not clean things. Good soaps are neutral or very slightly alkaline, but never acid in reaction. Most dirt has a basis of grease; it is the function of soap to enter into combination with these greases in the dirt and render the whole mass soluble, so that the water will take it up. That is why hot water will clean better than cold. The less adulterant soap has in its combination, the more greasy dirt will it take up. If there is an excess of these potash or soda salts, they will be free to eat into your fabric or your varnishes, and they will destroy rather than clean. So much is this the case that some of the best soap makers are using the carbonates instead of the lyes in order to avoid the destruction of fabrics, floors, and furniture; and soap so made, while costlier per pound, will do proportionately more work, and will not destroy things.

To the ordinary housekeeper or hospital matron the best guarantee of good soap is the reputation of good houses. But, if you want to test the matter yourself, take a given quantity of some very cheap soap and the same amount of good, high-priced soap; then clean with each exactly the same kind and amount of surface, or wash the same amount of laundry goods that contains the same amount of dirt, grease, or stains. If you are using a floor surface, and a ward floor is perhaps the best medium to make the test, examine carefully, after the process is complete, to see if any grease is left behind; if so, your floor is not clean.

The use of clothing and laundry goods does not wear them out. It is in the laundry they are destroyed, and in one of two ways—either by the use of strong lye soaps or by bleaches. If you use good—that is, real—soap, you will not need bleaches, and your goods will last very much longer.

Steam Versus Hot Water for Heating.

To the Editor of THE MODERN HOSPITAL:

Can you tell us something about the relative merits of steam versus hot water for heating purposes in the hospital? There seems to be arguments in favor of and against both, and we are unable to arrive at a satisfactory decision. J. W. C., Rochester.

The advantages of steam heat may be summarized as follows: (1) the cost of installation is twenty-five to thirty-five less than for hot water; (2) exhaust steam can be used without the use of expensive apparatus; (3) heat can be supplied to parts of a building in an emergency more quickly; (4) aside from cost, it is often an advantage to use smaller radiators and pipes; (5) a defective pipe will cause much less damage; (6) repairs to pipes and valves can be made with less trouble; (7) the trouble incident to the pressure, due to the hydraulic head, is eliminated; (8) hot water is not well suited to use in hot blast radiators used in connection with ventilating systems; (9) automatic control of heat is more satisfactory with steam; (10) it is usually desirable to heat the hot water for domestic uses with steam; (11) a steam plant usually fits into a general mechanical scheme better than a water plant, and this is especially true when steam is used for laundry power, cooking, and sterilization.

Hot water is superior in the following respects: (1) some air changes incident to the use of artificial heat are less noticeable with water than with steam; (2) better general regulation to meet weather changes is possible, and, in the event that the regulation of individual apartments is manual, less attention is required; (3) if properly installed, there should be no annoying noises from pipes or radiators; (4) less attention in the boiler room is necessary; (5) the aggregate cost of repairs in low buildings should be less than with steam; (6) the cost of operation should be enough less than steam to cover depreciation and the interest on the excess cost of the water installation; (7) it is possible to use exhaust steam by using a water heater similar to a feed water heater of the closed type; (8) in a small hospital where steam is not required for other purposes, hot water offers the most advantages; (9) in tall or widely extended buildings, or where there is power plant, steam is the better.

LOUIS R. CURTIS,
Superintendent St. Luke's Hospital, Chicago.

Autopsies In American Hospitals.

Dr. Abraham Flexner, in a recent address before the State Charities Aid Association, called attention to the difference in the number of autopsies performed in German and English hospitals and those of America. There all patients entering public institutions are told that in case of death an autopsy must be performed, while here the consent of the family must be obtained. Dr. Flexner advocates a law requiring autopsies. The *International Hospital Record* (December 17, 1913), commenting on the address, says that the idea is quite impractical, that the matter of autopsies on hospital patients is one in which neither the American hospital or the American physician will ever have anything particular to say. This will be decided entirely by the patient or the patient's relatives, and there are few who will be willing to offer themselves or their relatives for the purpose of advancing medical science through the medium of an autopsy. This idea that the American people will continue to refuse autopsies when their scientific importance is once understood seems to be controverted by the experience of the Phipps Institute in Philadelphia. Their experience for the past ten years is published in the *Journal of the American Medical Association* (January 3, 1914, page 29). The patient, on entering, is required to sign a blank consenting to an autopsy in case of death. During that time the number of autopsies performed has been 98.37 percent of the deaths, in contrast with a percentage ranging from 4 to 24 percent in other American hospitals, while the German hospitals show a percentage of 77 to 99.9 and the English from 71.9 to 85.9. Dr. Landis thinks that the signing of the blank has had practically no influence in keeping patients away from the hospital. The *Journal of the Maine Medical Association* (December, 1913), in commenting on the same subject, thinks that legislation on the subject should be preceded by an education of the public as to the value of autopsies and by greater zeal on the part of physicians in trying to obtain them.

The walls of the first floor of the new Cook County Psychopathic Hospital at Chicago were finished on November 9. On January 9, or just sixty days later, the roof of the five-story building was on, so that the building could be inclosed with cheese cloth in the windows. The building was then ready for partitions and plaster. This is considered a record for rapid winter work.

Contracts for the construction of the new $100,000 hospital for women connected with the Southwestern Hospital for the Insane at San Antonio, Texas, have been let. The general contract for $43,343 was let to E. Niggli & Son, plumbing to Edward Braden at $4,113, and to Martin for the electrical work at $938. Under the stipulations the building is to be ready for occupancy in June.

HINTS FOR HOSPITAL SUPERINTENDENTS.

Never forget that a hospital is a place in which to care for and cure the sick. Every other consideration should be subjected to this fundamental principle, but this does not mean that unreasonable demands of the sick or their friends should be granted. Interns and nurses can always fall back on "the doctor's orders."

Never give an order to one of your department heads unless you know what you are talking about. You ought to be posted about the apparatus, and technic, and the working conditions everywhere. The best administrator is he who can go in and run any department at a pinch, fix the machinery or make proper adjustments; the next best is he who helps his departments by giving them proper facilities with which to work, and who does not handicap them with unreasonable conditions.

If it is at all likely that a patient or his friends may become needlessly alarmed by an entry on the record sheet, keep the record clear out of sight—in another room if possible. If it is in sight and you refuse to let him see it, a patient will work himself into a nervous and possibly dangerous condition, imagining the worst. Many a well person has been made ill by solicitous inquiries of friends. How much more harm can be done to a sick person by letting his imagination dwell on something he thinks is being kept from him?

We are often questioned about the advisability of baking our own bread. Some rather definite rules of cost regulate this matter. Hospitals of less than 500 people, sick and well, can hardly afford to bake their own bread, and they will not save any money by doing so. There are long arguments and many figures, but these are the facts. Of course, in a municipal hospital that can work patients, or that is connected with a penal institution that has free labor, the case will be different; and hospitals out in the country, such as sanatoriums, are also in another class, because transportation for bread is not good.

Never treat lightly or flippantly a complaint brought to you by an employee. To whom may he take his trouble, if not to the head of the institution? And what may seem very trivial to you may be a very serious thing to him; his life, and comfort, and advantage mean as much to him as yours do to you. If you refuse to listen seriously and act when the case justifies it, you will soon get, and you will have earned, a reputation for unfairness that will haunt you, and do you and your institution great harm in some crucial situation. A superintendent who is known to be fair and just will be forgiven by his employees for many faults—and all of us have faults.

If you think a staff member has done something that should be officially noticed, the first thing to do is to be very sure that the story has come to you correctly; then make sure that the action or conduct was actually wrong. If an intern or nurse, or another staff member, has told you what occurred, substantiate the story. One of the best sources of correct information is the head of the training school. If she does not know the facts, she can get them better, and with less disturbance, than you can. Then it is a mighty good plan to send for the man implicated and get his side of the case. Further action on your part will not be prejudiced by this course, and often you will be saved from a ridiculous and embarrassing situation by having an explanation that will put a new face on the whole matter.

Study your problems intelligently and thoroughly. If you seem unable to get good coffee, go to the kitchen and make a thorough study of the methods employed there. Call in your coffee salesman; usually he will know a lot about making coffee. Visit some hotel or restaurant where they have good coffee, and see how they do it. It may take you a week or a month to learn what you need to know, but you will have solved the coffee problem. Handle your other problems in the same way, and in the course of time you will have laid up a fund of information that will greatly add to your efficiency and to the efficiency of your institution.

Because the laundry happens to be hidden away in some disagreeable hole is no reason why it should be forgotten and neglected. Its functions are among the most important in your institution. Waste and extravagance can make large inroads on your resources, and poor facilities are quite as costly as actual waste, because your employees cannot earn the wages paid them. A clean, well-lighted, well-ventilated laundry will mean far greater efficiency in the workers, and decent regard for the comfort and health of the people will mean efficient workers. Good workers do not have to submit to intolerable working conditions, and, if you maintain these, you will have poor help, poor work, and a costly establishment.

If you can break up the walls of your wards and rooms into panels, even if they are only paint panels, you will save a lot of paint and time. Rooms or wards painted solid one color have to be gone over completely every little while, because there is a chunk of plaster nicked off at some point, or because the bed or dresser rubbed. If there is a dado that comes up high enough to take in the head of the bed and the top of the dresser, you will have to paint only below this dividing line when the wall begins to look bad. A frieze at the top is another good thing, because ceilings get dirty far quicker than side walls, and the dirt soaks into them more readily and is harder to get off; therefore the ceilings require more scrubbing and the paint wears off quicker, so that the ceilings have to be renewed oftener than the side walls, and, if the colors are different, the side walls can be let alone, or wiped off gently with clean sponges and hot water.

Try washing your dishes with the common green oil soap which you are accustomed to use only for floors, walls, and other surfaces, but put a sprinkle of washing powder in the soap water, or a little soda. The alkali will serve to clean the soap off the dishes. Bar soap is extremely wasteful for dish washing, and the maids waste far more than they use. The best way to employ green soap is to boil up a quantity at a time, and the laundry soap boiler is a good place in which to boil it. Use one pound of green soap to one gallon of water. It is best to keep the solution in a five-gallon wooden keg, with a wood faucet. The maids and men janitors can draw off a sufficient quantity—say, a pint of the solution to a bucketful of hot water. The dish washers can do the same. This green soap solution, with a little soap powder or soda added, is the best and far the cheapest soap to use in dish washers as well as in hand work.

VALUABLE SUGGESTIONS FOR DISPENSARIES.

Associated Out-Patient Clinics of New York Reports on Gynecological Patients and Cancer—New History Card.

In the December number was published a most important contribution to system and order in the form of a report on tonsil cases, syphilis, and gonorrhea by the Associated Out-Patient Clinics of New York. The New York Association is doing an untold amount of good for all the out-patient clinics and dispensaries of that city by reducing their methods to a uniform basis.

A second report has now been published, this time on the care of gynecological cases in the clinics and cancer of the female genitalia. The report includes a set of instructions which may be taken by dispensary clinicians as merely suggestive for their own use in instructing patients, or the instructions may be printed in the appropriate language and distributed to women patients. In the report there is also a suggested history card, so far superior to any card this writer has seen that is reproduced.

THE MODERN HOSPITAL feels that its pages can be used to no better advantage than for publication of this report in whole, because, if there is any one thing in the whole field of hospital activity that needs efficiency and system, it is the relationship between the out-patient and the clinic, or, rather, the individual clinician who comes in contact with the patient.

RECOMMENDATIONS OF EXECUTIVE COMMITTEE OF THE GYNECOLOGICAL SECTION OF THE ASSOCIATED OUT-PATIENT CLINICS OF THE CITY OF NEW YORK.

ADMINISTRATION AND EQUIPMENT.

1. The Executive Committee recommends that the services of physicians in gynecological clinics be limited to four years. This rule shall not, however, preclude reappointments.

2. The Executive Committee wishes to emphasize the value of accurate clinical histories, and recommends that uniform forms of histories be adopted by all the gynecological departments of the city.

3. The Executive Committee recommends that, in order to equalize the duties and responsibilities of the assistants in the clinics with reference to taking of histories, a weekly rotation system should be adopted at each clinic, and efforts should be made to secure the services of medical student clerks or other clerical assistants for that purpose.

4. The Executive Committee is of the opinion that local gynecological treatment is of undoubted value, and that it is indispensable that proper equipment be furnished in each dispensary or out-patient department of a hospital having a gynecological department.

5. The Executive Committee is of the opinion that every properly equipped dispensary should have, in addition to the usual gynecological instruments, an equipment for cystoscopy, also arrangements for the proper determination of (a) urine, (b) smears, (c) Wassermann reaction, (d) blood, and (e) diagnostic specimens, in properly equipped pathological laboratories.

6. The Executive Committee recommends that gonorrhea in women should be treated in the department of gynecology, but that syphilitic patients be referred to the department of dermatology or special department of syphilography.

7. The Executive Committee recommends that children suffering from vaginitis should be treated in the gynecological department of dispensaries, or in special departments for the treatment of the disease, if such are available.

8. The Executive Committee wishes to emphasize the value and need of printed hygienic instructions to patients suffering from gonorrhea and cancer, and recommends that uniform printed instructions be adopted by all gynecological clinics of the city. The committee also recommends that instructions with reference to cancer of the womb be given to every patient in gynecological clinics, and that the dispensaries located in districts with a considerable foreign population print all their hygienic instructions in such foreign languages as are most suitable for their neighborhood.

The Executive Committee recommends that the principle of limitation of the number of patients in each clinic should be adopted, such limitation to be based upon the estimated facilities in men and equipment of each clinic. The Executive Committee further wishes to advise that, as a general working rule, the average of six patients, old and new, per table per hour be adopted.

10. The Executive Committee recommends that evening

STANDARD HISTORY CARD FOR THE GYNECOLOGICAL CLINIC.

No..... Diagnosis.....
Name..... Address .....
S..... M..... W..... Age..... Nativity.....
Occupation.
Character .....
Duration .....
Commencement.....
Living and other economic conditions.....
1. Previous illness .....
2. Menstrual history.
Onset.....(A) past.
Periodicity .....
Quantity .....
Duration.....(B) present.
Pain—before .....
during .....
after .....
3. Labor.
Number .....
Last .....
Normal .....
Instrumental .....
Complications .....
4. Miscarriages.
Number .....
Last .....
Period of gestation.....
Complications .....
Treatment .....
Cause .....
5. Present illness.
Pain .....
Discharge .....
Urination .....
Bowels .....
Duration .....
6. Physical exmination.
General appearance .....
External genitals .....
Vagina .....
Uterus—body .....
cervix .....
Adnexa—right .....
left .....
Parametrium—right .....
left .....
Urinary organs .....
7. Treatment.
Local .....
Drugs .....
Home .....

Size of history card, 8½ inches wide by 13 inches long.

clinics for patients working during the day should be adopted.

INSTRUCTIONS TO PATIENTS.

Instructions to Patients Suffering from Gonorrhea.

You have a serious contagious disease. For your own protection, and the protection of others, observe the following precautions:

1. Keep the parts as clean as possible. Always wash the hands after handling the parts; the discharge, if carried to the eyes, may make you blind. Be sure that no one uses your toilet articles, particularly towels, wash cloths, and soap. All towels, wash cloths, bedding and underclothes, soiled by discharges, should be boiled and washed separately.
2. Never lend your syringe or douche bag to anyone; wash off the douche nozzle with boiling water each time after using, and as soon as you are well destroy it.
3. Sleep alone. Do not have intercourse with your husband, and avoid all sexual excitement.
4. Be sure that the bowels move every day. If constipated, take a laxative.
5. Do not use alcohol in any form, as it always prolongs the disease.
6. Drink from six to eight glasses of water a day.
7. Avoid all spicy food and drink, such as ginger ale, mustard, pepper, and horseradish.
8. As long as the discharge is free, or there is any pain, keep off your feet as much as possible, especially at the time of your monthly period.
9. Do not neglect these precautions until a reputable physician pronounces you cured.

Instructions to Patients Suffering from Cancer of the Womb.

Cancer of the womb can be cured in the early stages.

1. Prolonged or irregular monthly flow is frequently the first sign of this disease.
2. Slight bleeding after a douche or sexual intercourse is one of the earliest signs.
3. After the age of 30 any of the above occurrences should demand an immediate local examination of the internal organs by a competent physician.
4. There is no pain with cancer in its beginning.
5. Profuse bleeding and frequent spotting is not a sign of change of life—it may mean cancer.

Our February Cover Design.

Mr. Garden's cover design for this month is a sketch from the grouping of the Sea View Tuberculosis Hospital, New York. The illustrated description of this hospital by the architect, Raymond F. Almirall, shows a rather new development of a group of buildings about a horse-shoe service center. The hospital was originally planned to cost $2,000,000, but numerous changes were ordered that have considerably increased the cost. The hospital is one of which Greater New York may well be proud.

Conference of State Medical Boards.

The annual conference of the Federation of State Medical Boards of the United States is to be held in the Francis I. room of the Congress Hotel, Chicago, on Wednesday, February 25th. The officers of the Federation, Dr. Charles H. Cook, of Natick, Mass., president, and Dr. Otto V. Huffman, of the New York State Board of Charities, secretary, have announced that the program will deeply concern hospitals, and must therefore be of intense interest to hospital people. The Federation gives a cordial invitation to hospital people to attend and participate in the program.

Huron Road Hospital, of Cleveland, plans to sell its present hospital buildings down town to the city for an emergency addition to the City Hospital, and will build a $500,000 new 400-bed hospital on East boulevard. The present Huron Road property has been offered to the city for $200,000.

NEW YORK'S "INQUIRY" COMMITTEE.

Report Shows Grave Wrongs at Gouverneur Hospital—An Ideal Out-Patient Arrangement—Appeal Made for Social Centers With Many Functions.

The committee on inquiry into the departments of health, charities, and Bellevue and allied hospitals of the New York Board of Estimate and Apportionment has just published "Section VII" of its report, taking up at this time the following items:

1. The out-patient department of Gouverneur Hospital.
2. Suggestions for the organization of a public out-patient department.
3. Sickness in the home, and a proposed health center.

The committee found much to be desired in the out-patient department at Gouverneur Hospital. Patients were examined in groups when they were examined at all, the more common method of procedure being to ask a patient, with thirty or more in the room at one time, what was the matter with him, and then give him a prescription. It is only fair to say that the medical staff at Gouverneur stoutly deny the committee's statements and promise a big row over the matter.

Under the second heading of its report the committee reviews out-patient work, including social service, home and district nursing, and winds up with a picture of what an out-patient department should be, going into details of architecture, arrangement of the various suites, and details of record keeping and medical conduct of the department. This part of the report includes floor plans of an ideal out-patient department prepared by Dr. S. S. Goldwater.

The third part of the report argues in favor of what we might call neighborhood service, with social center, visiting nurse organization, various clinics—as, for instance, a dental clinic, a child's clinic, a bureau for the supervision of midwives, and over all a medical organization, details of which are given.

The report is exhaustive, covers many items of interest, and must be most profitable reading for anyone having to do with the health and welfare of the community or the individual.

After a very long period of investigation of modern hospitals of the same kind elsewhere, the superintendent and architects of the new Columbia Hospital for Women of Washington, D. C., have incorporated some unique features in the plans, chief of which are roof kitchens and dining rooms. The bids have been let in accordance with Government specifications, it being a Government hospital, and excavation for the foundation has already commenced. Nathan Wyeth, the architect, and Dr. J. O. Skinner, superintendent, expect the building to be ready for occupancy next fall.

A new $175,000 Children's Hospital at Los Angeles is nearing completion on the hillside at Vermont avenue and Sunset boulevard. The building is of armored concrete and brick, with hard interior work, tile partitions, composition roofs, cement and tile flooring. There are four buildings in the group for different classes of patients, power plant, and quarters for employees. It is to be a very completely equipped hospital, with steam heat, electric elevators of the automatic style, an ice and refrigeration plant, house telephones, and specially designed infants' and children's baths. The architects are Messrs. Hunt and Burns. Mrs. W. T. Johnston is chairman of the Building Committee, and Miss Vannier is superintendent.

Corpus Luteum *(Armour)*

represents the yellow part of the gland, which is carefully separated and dried at a low temperature.

Corpus Luteum is indicated in those functional disturbances of women with which the gynecologist is familiar.

Corpus Luteum - - -	Powder
" " - -	Capsules, 5-grain
" " - - -	Tablets, 2-grain

Further information on request.

ARMOUR AND COMPANY Chicago

Carbon Filiment Lamp
32 c.p. x 1 c.p. and out
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NEWS *of the* HOSPITALS *and* SANATORIUMS

Dr. S. S. Goldwater, superintendent of Mt. Sinai Hospital, New York, and one of the editors of THE MODERN HOSPITAL, has been appointed to the office of commissioner of health of New York City, and has accepted the position, to take effect February 1. It has been no secret that the newly elected mayor, John Purray Mitchell, was anxious that Dr. Goldwater should take the most responsible office in his administration, but until the mayor's insistence showed Dr. Goldwater that his acceptance was a public duty, he had declined to make the sacrifice of giving up his hospital work.

A petition of over 150,000 residents of Paris has been presented to the Municipal Council of Paris to restore nuns to their former places as nurses in Parisian hospitals.

A course to cover eight months in public health work for graduate nurses is to be given at the Henry Phipps Institute, University of Pennsylvania, by the University Medical School. It will consist of two months at Phipps Institute Hospital and six in the Social Service Department.

The Chesapeake & Ohio Railway has decided to build a tuberculosis hospital at Charleston, W. Va., for the care of its employees. The company has donated 200 acres of land on the outskirts of the city, and has been instrumental in the creation of a hospital association which will take over the building and management of the institution.

A new 1,000-bed children's hospital has been urged for Blackwell's Island, New York. The complete abandonment of the present children's hospital on Randall's Island and sweeping reforms in the treatment of children throughout the state are proposed by the hospital committee of the Board of Estimate and Apportionment.

The Metropolitan Life Insurance Company is to conduct a tuberculosis sanitarium for its employees. A plot of ground containing 420 acres, and located 1,200 feet above sea level, has been secured at Mt. McGregor, near Saratoga Springs, and a complete equipped hospital has been opened. The question, recently raised, whether the company had a right to conduct a hospital has been answered in the affirmative by the New York Appellate court on the ground that proper care of its employees is a regular part of corporation business.

It is proposed to wipe out the "Old Blockley" hospital of Philadelphia and to spend $5,000,000 on an entirely new institution that shall be commensurate with the dignity and importance of the city, and adequate to care for the sick according to modern medical science. Blockley has an average house count of over 1,900 patients, and the per

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capita cost is 75 cents. A committee of the medical staff, of which Dr. David Reisman is chairman, has made complete plans and has appealed for $1,000,000 with which to begin operations.

St. Luke's Methodist Episcopal Hospital at Cleveland is to have a $400,000 addition, which will increase the number of beds from 90 to 390. St. Luke's was established in 1908 as the successor to the Cleveland General Hospital. The Methodist Union is behind the hospital, with Dr. N. W. Stroup as the Cleveland district representative.

Samuel Grabfelder, of Philadelphia, has given $350,000 for a new medical building for the National Jewish Hospital for Consumptives at Denver, and has made an appeal for a million-dollar endowment. The gift was made at the annual convention of trustees held in Cleveland on January 5th. The new building will be commenced as soon as plans can be made.

At a recent meeting of Christian Scientists held in San Francisco, Wm. R. Rathvon, of Denver, urged "every true Christian Scientist" to work for the elimination of hospitals. He says, "We do not condemn hospitals, or asylums, or missions for those who want them; we are trying to do away with all necessity for them." Appropriately, this Christian Science meeting was held in Dreamland Rink.

Houston, Tex., is to have a $500,000 hospital, to be erected by public subscription. It is to be called Mercy Hospital, and Mayor Campbell is to be the chairman of the executive board. Mr. Charles P. Shearn is to be president of the institution. The hospital is to be built in two sections, one section for white patients and another for colored. There are to be 400 beds, of which 40 percent are to be free.

The Government has made a $400,000 appropriation for the erection of a national Red Cross building in Washington. It will be a memorial to the northern and southern women of the Civil War, and $100,000 of the $300,000 sum to be raised by private donation has been given. The building will have an assembly hall, museum, library, etc. The work may begin in the spring and be completed by 1915.

Ithaca's new City Hospital, built at a cost of $150,000, was opened on January 1st. Nearly 8,000 visitors were present at the opening exercises. The children's department, equipped completely by an unknown "friend of children," and the laundry, whose machinery was set in motion for the visitors, attracted the most attention. The entire hospital is most complete, both in architectural arrangement and equipment.

It has just come to the public notice that the New York Legislature, in the closing days of the last session, passed a law, which has just gone into effect, permitting all state hospitals for the insane to maintain out-patient departments. Dr. Thomas W. Salmon, of the National Committee for Mental Hygiene, thinks this legislation is the greatest advance made in the last generation for the benefit of the mentally disturbed.

A unique ceremony marked the formal opening of the new Louisville City Hospital, which took place January 15. The Board of Public Safety gathered in a body at the institution, the elevators and other machinery was set

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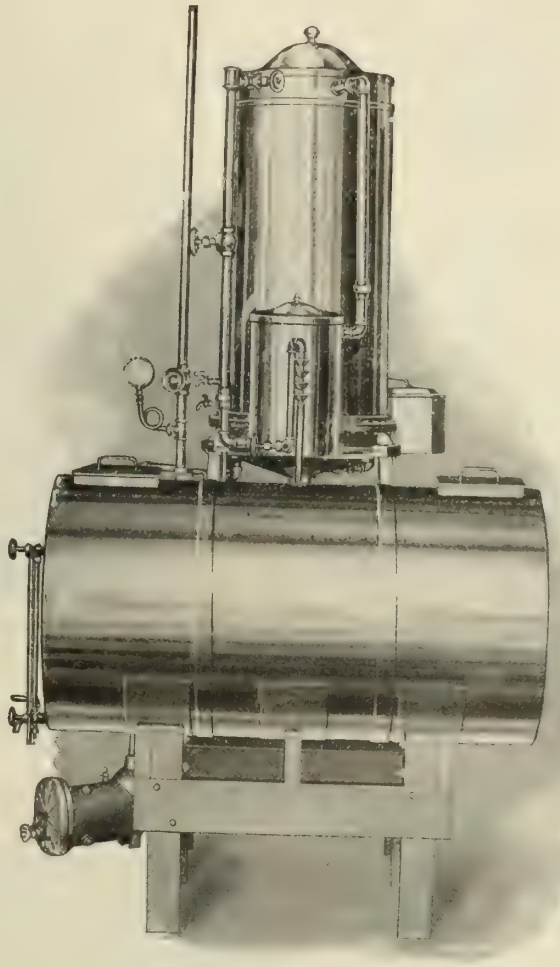

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going by them, and a committee of their number formally received the first consignment of supplies, storing the various articles in their proper place. The reception of patients will not take place until February 1.

Complaints come in from all over the country that hospitals for the insane are refusing many cases of mental disturbance on the ground that their own institutions are overcrowded. There is a tendency in many of these state hospitals to compel cities to make a sufficiently careful differential diagnosis to determine whether the cases are "insanity" or mental disturbance due to physical abnormalities or illness.

Dr. Laban Dennis, president of the public welfare board of Newark, N. J., has raised the question of the extreme cost per bed of tuberculosis hospitals. The board of freeholders of the city proposes to spend $120,000 for a 100-bed hospital. Dr. Dennis protests against the expenditure on the ground that other organizations have erected similar structures at a cost of from $250 to $570 per patient. He doesn't think there is any excuse for a larger expenditure than $500 per bed.

The new Ohio Valley General Hospital at Wheeling, W. Va., has just been opened to the public and patients are now being received. It is a very handsome building, having the appearance more of a great state house than a hospital. It is six stories high, with a high tower rising from the center and with pagodas at the two front corners. There are roof gardens and loggias on all the patients' floors, affording broad, open promenades. The ambulance entrance is a broad arched drive directly into one end of the building.

The foundation has been laid for and the super work has begun on an animal hospital on Longwood Avenue, Boston, to cost $225,000. The building is to accommodate the office force of the American Humane Educational Society, besides furnishing hospital facilities for the Massachusetts Society for the Prevention of Cruelty to Animals. There are to be two operating suites, one for horses and the other for small animals. Complete sterilizing apparatus and other hospital accessories are included in the equipment.

A movement is on foot in Philadelphia to investigate, for purposes of standardization, all the hospitals, public and private, of that city and to place all the institutions under a uniform system of efficiency. Over seventy hospitals are announced to have responded to the proposal that this work be done. An organization has been created for this purpose, with Dr. Edward Martin at its head. It is proposed to employ an efficient engineer, whose duty it will be to create uniform methods of procedure in records, accounts, and administration.

When a $100,000 building is in the way of a tulip patch, the structure should be torn down. So it is on the country estate of Antoine Borel, near San Mateo, where contractors yesterday began razing the magnificent Armitage Orphanage building, which was built by Mrs. Jennie Crocker Whitman and Charles Templeton Crocker. The space occupied by the buildings will be used for an extension of the Borel tulip patch, which is said to contain one of the most costly and complete collections of these plants in existence. The buildings and grounds occupied by the Armitage Orphanage were recently sold to Borel for $35,-

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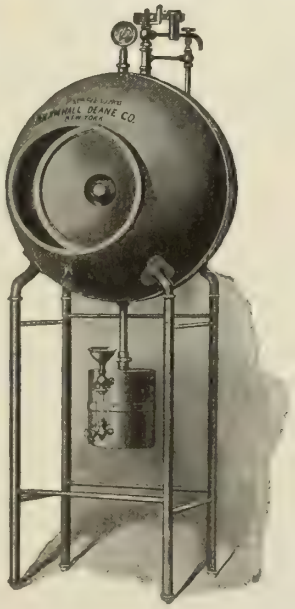

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000 and adds considerable to his vast estate. The institution, which was managed by a board of society matrons, was closed last spring when the Legislature cut off its state appropriation. Homes were found for the hundred inmates—San Francisco Chronicle.

A unique tuberculosis sanatorium is to be constructed at Collinsville, Mo. The building, all on one floor, is to be composed of private rooms and separate suites, luxuriously furnished, but with partition walls reaching only 6½ feet high. A single high roof, blanketing all the apartments, will leave several feet in the clear, through which fresh air may circulate freely. Ventilation is to be had exclusively in this clear upper space, so there will be no drafts. Dr. M. W. Harrison, who is erecting and will conduct this novel hospital, has had a cottage tent colony for consumptives for several years.

Simultaneously in two states trouble has arisen over the question of the admission of insane patients at the state hospitals sent by the largest cities in the states. In Colorado the state hospital in the district of which Denver is a part has refused to take any more patients from that city on the ground that that city has already more than its quota of beds occupied. In Philadelphia the city authorities are contemplating court action to compel the state hospital at Norristown to take all patients from that city that are committed by the insane courts. The state hospiatl authorities have made the issue plain by the passage of a resolution forbidding the superintendent to take any more patients from Philadelphia on the stated ground that the hospital is now so full that the health of the inmates will be endangered by a greater number.

Work on the $600,000 hospital for the University of California at the Presidio, overlooking the bay and ocean, is to be commenced at once. It is stated by Dr. H. C. Moffitt, dean of the medical school, that, while the hospial is intended to care for the sick, its chief function is to be educational. To this end the very latest appliances and equipment will be installed, including the best chemical, physiological, and physical laboratories, x-ray apparatus, dietary facilities, an electro-cardiograph, an epidiascope, and completely equipped operating rooms. In connection with the building of the new hospital it is stated that a recent gift of $2,000,000 from Mrs. George Williams Hooper is to be used exclusively as an endowment, the interest of which will pay salaries and other expenses of medical research. No part of the fund is to be used for buildings or equipment. The new hospital is the gift of other friends of the university.

Dr. Marcus Heyman, superintendent of the tuberculosis department of the Central Islip (L. I.) Hospital for the Insane, has advised a committee that conferred with him concerning the character of architecture for a new tuberculosis hospital to build a cheap, frame structure that could be burned after six or seven years. "My notion of an appropriate hospital for the handling of tuberculosis cases," said Dr. Heyman, "is an inexpensive frame building which can be burned to the ground every six or seven years. Fire is the only means by which the germs can be routed out of a building housing consumptives. If it were possible to expose every corner of the building to the rays of the sun, the question would be solved, but this cannot be done. If built practically, a tuberculosis hospital should be a very inexpensive affair. A frame structure is suitable, because there is no heating problem to solve."

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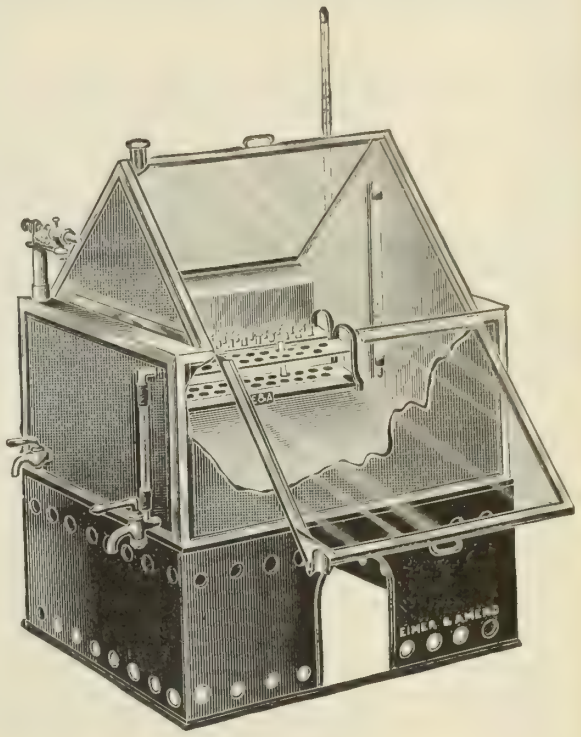

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ARCHITECTURAL AND BUILDING NOTES

The Baptists of Atlanta are to start a campaign for raising $100,000 for a new plant for the Baptist Hospital of that city.

Queen Anne, Caroline, and Talbot counties, Md., will have a $400,000 hospital at Easton, Md., if the effort being made to raise that amount is successful.

The Paterson, N. J., General Hospital is to raise $100,000 for a new building at once. Plans have not been made and the architect has not been selected.

Butte, Montana, is to have a city hospital. The trades unions of the city have taken the matter up and will help push it to a conclusion. Dr. Horst has the preliminaries in charge.

The Sisters of Providence will erect a $40,000 hospital at Turlock, Cal. The city is to donate $10,000, and the Sisters agree to find the balance. Mr. H. S. Crane, of the Turlock Board of Trade, is chairman of the committee.

Plans have been completed by Robert J. Reilley, architect, of New York City, for an $80,000 cancer pavilion to be operated as a part of the House of Calvary Hospital, One Hundred and Sixteenth street and Mount Hope avenue. The new building is to house from 40 to 50 patients, and will be fireproof, with all modern equipment.

Plans for Detroit's new County Detention Home and Juvenile Court have been completed by the architect, W. B. Stratton, acting in conjunction with Judge Hulbert, of the juvenile court. The building proper is to cost $128,000, and will accommodate 100 children. The hospital wing will be built in the future.

A $40,000 county hospital for Johnson county, Texas, is to be built this spring. There is to be an election to decide the matter, but County Judge J. B. Haynes, of Cleburne, where it is proposed to locate the institution, says the law is mandatory, and that if the bond issue fails, the County Court will proceed to raise the money by direct taxation.

The first of a large group of buildings for the Christian Church Hospital of Kansas City is to be commenced in the early spring. The architect, Henry F. Hoit, has completed the plans for a $200,000 structure, and bids are to be asked at once. The hospital is planned to cost over $1,000,000 eventually, and it is probable that one-fifth of the group will be constructed every two years.

The Maternity Hospital of Minneapolis is to double its capacity by the addition of an $80,000 pavilion. Living

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Description—The patient can call a nurse with the extension push located near his bed. The pressing of the button will energize a locking relay, which will close a circuit, light the light over the door, a light at the nurse's station, and several pilot lights located where deemed necessary. The pressing of the reset button either at the patient's bedside or at the entrance to the ward will extinguish the lights.

Description of Apparatus—At the patient's bed is a switchplate with a reset-button and a bushing, with a silk cord and an extension push-button. The light over the door consists of a switchplate, lamp-socket, and lamp. The lamp annunciator at the nurse's station consists of a metal or wood case, lamps, and opals, properly marked. Pilot lamps are similar to the lights over the door, but are of a different color. Relay cabinets and terminal boxes are placed at some central point on each floor. These boxes are to be equipped with sufficient relays and terminals to take care of all the switching for the lights of that entire section.

Wiring—For each patient's room three wires run direct to the relay box; two of these wires are to set and release the relays; the third is to light the light over the door. There is also one positive common wire to all lamps and push-buttons, making a total of four wires.

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quarters for all well people are to be removed from the hospital proper when the new buildings are completed. The new pavilion is to contain 50 beds. Plans will be made at once, so that work can begin as soon as all the money is subscribed.

The city of Moline, Ill., has presented an $18,000 site for the new Lutheran Hospital and $10,000 additional toward the building fund. Cities all along the Mississippi have been trying to secure the location of this hospital, which is proposed to relieve the overcrowding of the Augustana Hospital of Chicago. Plans are now under way for a group of buildings to cost $100,000.

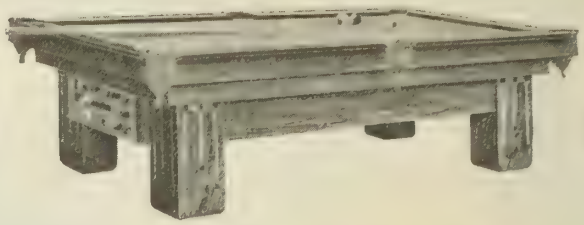
Ground is to be broken early this spring for a $50,000 public hospital at St. Joseph, Mo., the bequest of the late Charles W. Noyes. Plans have not been ordered yet, and will not be until a proper site can be found. The trustees are now studying hospital plans elsewhere in order to make their own institution conform to the best approved modern construction. Mr. Ralph Costigan is chairman of the board.

A new $100,000 building is to be erected early in the spring for the Springfield, Mass., hospital as the first move toward carrying out a scheme of systematic expansion prepared a year ago by Profs. Laird and Cret, of the University of Pennsylvania. The new building, to be called the Chapin Memorial, is to be the central structure around which other pavilions will be built, with corridors connecting the present group and those to be constructed in the future.

The Hartford (Conn.) Hospital plans to erect a new administration building which is also intended to include a considerable number of private rooms, which it is thought will help to make the hospital self-supporting. A committee has already been appointed to engage the services of an architect and to make the plans. It is not yet determined as to the amount of money to be expended or the size of the building, and the building committee, of which Dr. Phineas H. Ingalls is chairman, has had all of these matters submitted to it.

The new $270,000 Mount Zion Hospital of San Francisco is about completed, and will be opened for both pay and free patients this spring. It has 138 beds, divided into large and small wards and private rooms. There are two buildings, the hospital proper, four stories and basement, and a power plant and laundry, with the laundry in the second story, over the power plant. Both buildings are of fireproof construction, equipped with the most modern furnishings. J. E. Krafft & Sons, of San Francisco, are the architects.

The Brooklyn Hospital is to be practically replaced by new buildings. The first group is announced to cost $730,000, or as much of the amount as can be raised in a campaign to be carried on between now and spring. Plans have been completed for the buildings, and $600,000 of the money has been already pledged. It is intended that the group shall include an administration building, with two great main pavilions, a nurses' home, a central heating plant and laundry, and a service building. A special feature is to be made of the nurses' home, which is to have many new devices not heretofore installed in buildings of that sort.



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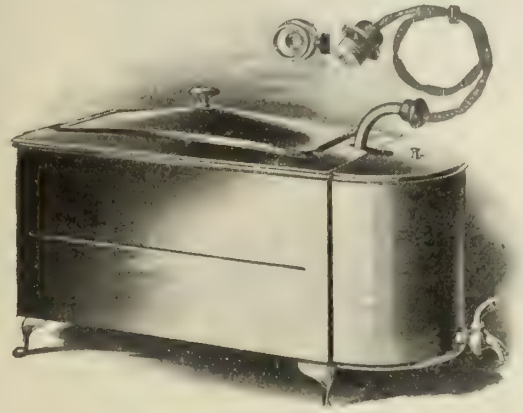

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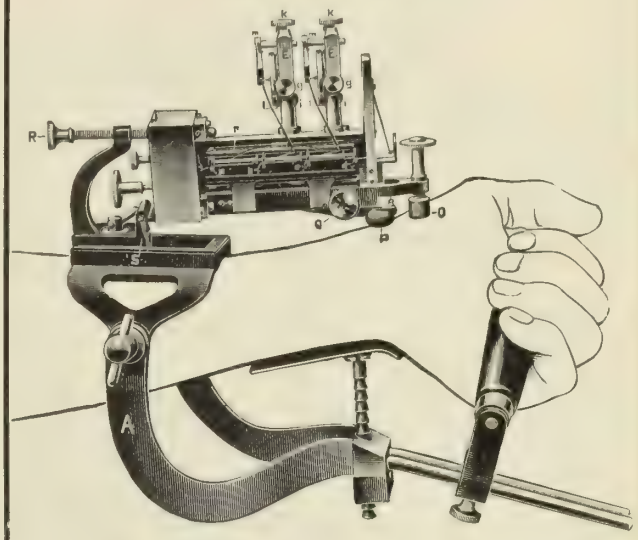

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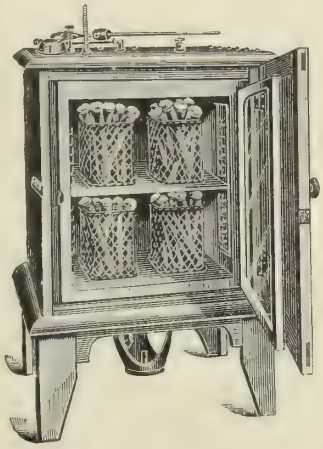

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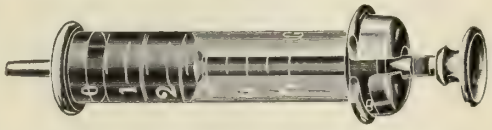

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Vol. II *March, 1914* No. 3

DIVIDING LINE BETWEEN GENERAL HOSPITAL AND HOSPITAL FOR INSANE.

Terms "Insane" and "Insanity" No Longer Serviceable — Many Mental Diseases Difficult to Distinguish From Purely Physical, Some Are Physical, and Arrangements for Their Treatment in General Hospitals Should Be Made—Some Borderland Cases.

By WILLIAM A. WHITE, M. D.,

SUPERINTENDENT GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.

THE title at the head of this article is used simply because it comports with present-day usages and attracts attention to the problem—which, in a few words, I shall discuss—as it is generally understood. To begin with, however, I am constrained to say that "hospitals for the insane" is a misnomer, and it is time that the word "insane" and the word "hospital" should part company permanently. If the word insanity has in the past been used in an effort to express a medical concept, such use has been mistaken. The word "insanity" has no place in medical terminology—it is strictly a legal and a sociological concept. The insane are so called only in the law. They are a group of the body social who are unable to get along, and it is in many instances merely an accident whether they are stamped with the legal term of insane, pauper, criminal, defective, or what not. Insanity, therefore, is a word used for the purpose of designating vaguely a certain type of social lack of adaptation and certain kind of conduct which renders the individual incapable of getting along in the community.

Now, as a matter of fact, the so-called insane are mentally diseased, but, as will be inferred from what has already been said, mental disease and that type of social lack of adaptation to which the law has applied the term insanity are by no means coequal. All of the so-called insane are suffering from mental disease, but there are many persons suffering from mental disease who get along efficiently in the community, and who are not insane and could not be so designated, while there are large numbers of persons who come within the purview of some other group of officials than those that have to do with the state hospitals, and are therefore designated as something else, who could equally be called insane if their path had led in a little different direction. For example, a large number of the so-called criminals are so merely by accident, and, if they had not happened to have done something which ran counter to a statute, their path would in all probability have led to a hospital for the insane. The same may be said of various other classes who have to be cared for by the public.

It will thus be seen that the problem of mental disease is a large one and far-reaching. It is a problem which has never been adequately attacked from the standpoint of preventive medicine, and yet it is one which economically is of the greatest importance, because no class of people in the community probably cost more in dollars and cents to care for than the so-called insane. As it is at present, however, mental disease goes practically unrecognized, not only so far as our public hospitals are concerned, but so far as a large number of the practitioners of medicine are concerned, and no effort is made to help incipient cases previous to a frank outcrop of symptoms, which makes their incarceration necessary. In fact, these people have no place to go, except in rare instances, where they may get intelligent advice, and so the problem is not recognized until it becomes self-evident, and by that same token until the period has passed when treatment might avail.

These preliminary remarks should make it clear to those who are accustomed to dealing with medi-

cal facts that the existence of mental disease should be recognized in a practical manner by admitting people for advice and treatment to the various institutions conducted by medical charity on the same basis as patients are admitted for treatment for other and, in many instances, much less important maladies. And when I say they should be admitted on the same basis as other patients, I mean that the various legal restrictions and disabilities from which they are now made to suffer before they can get anything like adequate treatment should be removed. As it stands today, the patient who falls down on the street and breaks his leg not only may receive prompt and skillful treatment in a general hospital in the city for the asking, but he is almost taken there willy-nilly, so little is his disinclination to go considered as a possibility. The person who is suffering, so to speak, from a broken mind, however, has no place to go. The general hospitals would not take him if they could, for they have no means to handle such cases if they did, they have no understanding of nor any interest in the problems involved, and there is nothing left for the patient to do but to seek admission through the tedious and humiliating process of the law, which brands him, in addition to his mental disability, with a legal disability before he is permitted to receive relief. What wonder is it that neither the patient nor the patient's relatives seek for the relief until it is too late? What wonder is it that they should draw back and hesitate to ask when their request is granted with such poor grace?

It is self-evident, therefore, that the mentally sick should be permitted the same rights of treatment for their several illnesses as the physically sick, that they should be accorded the same consideration, and that the hospitals of the various cities should be prepared to receive, care for, and intelligently treat them. The subject of mental medicine, however, is a distinct specialty, and it requires close application and study for years to master its principles, and therefore it is natural that a portion of the hospitals should be set aside for these cases, the wards to be in charge of specially trained psychiatrists just as separate portions of the hospital are set aside for other purposes—medical, surgical, obstetrical, or what not, with their respective specially trained men in the problems involved. This means that somewhere in a city of any considerable size there should be wards specially designed and maintained for the receipt of patients suffering from mental disease. Such wards are usually called psychopathic wards, psychopathic clinics, or psychopathic hospitals. They may be organically connected with the general hospital; they may occupy an isolated position at some distance from the rest of the institution; they may be separate institutions altogether, or they may be constructed separately, but in association with the other buildings of a large general hospital.

Which of the several plans suggested above is the most desirable is almost always a matter which has to be considered on the merits of the local situation. Our American cities, with their rapid patchwork growth, often present problems that make any solution necessarily a compromise. The ideal arrangement, it would seem to me, is for the city to have a municipal hospital located not too near the heart of the city and not too far away to be accessible, but on ground sufficiently extensive, not only for the present purposes of the hospital, but for all reasonable future growth. The plans of such an institution should include a psychopathic ward.

The advantages of such an arrangement are manifold. In the first place, the patient goes primarily to the big municipal hospital; he goes to the medical ward if he has pneumonia, he goes to the surgical ward if he has appendicitis, and he goes to the psychopathic ward if he has mental disease. He feels in this environment the influence of the hospital atmosphere, he is where he belongs, he is in an institution conducted for the care of sick people, and this feeling would be doubly strong if the municipality in its wisdom could be induced to withdraw the disabling legal preliminaries. Then, again, his relatives feel more at peace about him when he is here in this big hospital than they would if he were legally committed to an insane asylum. The municipality is, on the face of it, endeavoring to treat a sick man, and not simply to shut up a crazy one. It is the logical, the humane approach, and not the legal disabling method of turning the back to a disagreeable problem and locking the door.

In addition to the advantages of an arrangement, as described above, for the patient and the patient's relatives, there are other advantages. In the first place, the mental cases throughout the big general hospitals can be taken where they belong, just as, for example, if a woman is brought into the medical ward vomiting, and examination shows that she is pregnant and that the vomiting is the result of her pregnancy, she may be transferred to the obstetrical ward, where she will receive the best care and treatment for the particular condition from which she is suffering; so the mental cases in a general hospital will go to the psychopathic pavilion, where they will receive the best care and treatment. In addition to that, the psychopathic ward, with its corps of trained men, will be at the call of the other departments

of the hospital. Every patient in the institution, in addition to the trained advice of physicians and surgeons in all the different departments of medicine, will have added to a list of men, on whom he can draw to help him in case he needs it, a psychiatrist.

This introduction of the psychiatrist into the general hospital is to my mind filled with the greatest possibilities for medicine. We have always met on the medical and surgical wards the neurasthenic and the hysteric, but how rare it has been through the years that most of us have lived to see such cases treated intelligently, not to say sympathetically or understandingly. But the hysteric and the neurasthenic and such other patent conditions are by no means the only ones where the psychiatrist can be of inestimable service to the internist and the internist can be of inestimable service to the psychiatrist. There is literally a host of conditions that lie on the borderland between internal medicine and psychiatry. To mention one only, there is that immense group of fever deliria, of which every hospital always has innumerable cases at all times. The fever deliria will, no doubt, some day, throw a great deal of light on the function of the higher nervous centers, to say nothing of the possibilities on the organic side. In addition to this immense group of the fever deliria, there are hosts of other cases where internal medicine and psychiatry must needs meet, and the sooner the better. There are, to mention only a few, the traumatic deliria and post-traumatic defect states of various sorts; the post-operative psychoses; psychoses from shock, loss of blood; the group that follow operations on the eye and long confinement in a dark room; that very large group of gastrointestinal cases that have close relationships with the neuroses, which are at present not understood, but which are possibly mediated through the endocrinous glands and the sympathetic nervous system. Then there is the group of pelvic diseases in women. No one who knows anything about the history of medicine in the past generation can doubt but that thousands of ovaries have been removed, not to mention more grave operations, when the disease was not in the pelvis at all, but was in the mind. Then there are the chronic organic nervous conditions, the hemiplegias, with the aphasias, apraxias, and organic deteriorations; and finally the large group of toxic psychoses, among which alcohol plays the greatest part. All of this immense class of cases constitute a proper field for the psychiatrist, and the psychiatrist and the internist working together is the ideal toward which the establishment of the psychopathic ward in a general hospital will lead.

Of the various classes of cases which have been briefly mentioned above, the alcoholic and drug cases should be under the immediate care of the psychiatrist, either in the psychopathic pavilion itself or in an adjoining pavilion under his supervision. The general problem of the alcoholic must necessarily meet its solution in the psychiatrist's hands. It is true that the physical conditions are often most prominent and perhaps require the most intensive treatment. A neuritis of the phrenic nerve, for example, is of course not primarily a matter for the psychiatrist, but, taking the problem as a whole, it belongs in his domain. Patients that are admitted are admitted almost invariably because of some disturbances of conduct. They are either delirious, hallucinated, or deluded in an active way which leads to their arrest, or to apprehensiveness or complaint on the part of some one associated with them. In addition to this, many of them have actually committed some overt act, perhaps homicide, and it is important that when under these circumstances a patient is brought to the hospital he should, at the earliest possible moment, be placed under the observation of those who are trained to deal with mental questions in their legal bearings in connection with the administration of the criminal law.

In addition to all the above, and flowing naturally and inevitably from the conclusions reached, I believe that the general hospital should maintain an out-patient department for the advice and treatment of persons with mental disease. With such a machinery attached to the municipal hospital, there is no reason why all who are afflicted cannot as readily seek aid as those with bodily disease. The details of transfer from the psychopathic ward to the larger state institutions should be made as simple as possible. Transfer should be made effective on a certificate of two properly qualified physicians, and the matter should not have to come into court at all unless it is brought there by the patient, his relatives, or some friends on his behalf. I would not close the courts to the so-called insane by any means, but I would not insist on a legal process, whether the patient wanted it or not; I would not insist, so to speak, on cramming an alleged constitutional right down the patient's throat at the expense of his life. We see today this process of commitment going on where nobody wants it. The patient does not want it, the patient's friends and relatives do not want it, and anybody who stands and watches it proceed recognizes on the face of it that it is a farce. I would, therefore, proceed to the matter of commitment in the simplest way. Leave the courts accessible to the patient if he wants to appeal for relief, and it will be surprising how rare such appeals will be.

In the construction of the psychopathic ward arrangements should be made and equipment provided for all the scientific work which modern science demands in connection with a proper diagnosis and treatment of the cases that the psychopathic ward is called on to deal with, and so far as possible it would be best that additional opportunity should be provided in the way of laboratories, equipment, and fellowships for carrying on original research work. Whether this latter is or is not provided, it is highly desirable that the wards should be constructed with a view to teaching purposes. The material should be made accessible to the medical schools, and it would be the part of wisdom to provide a capacious auditorium in which lectures might be delivered and where patients could be exhibited. Such material coming in from a big city, of all classes and descriptions, large numbers of acute cases, with access to all sorts of borderland conditions, makes an invaluable supply for the purposes of instruction, and if, in addition to the instruction of the medical student, the law student should have to come there and listen to the lectures on mental medicine, we might perhaps work through such an institution the greatest of miracles—a rational set of statutes, with rational methods of legal procedure, where cases of mental diseases are under consideration. Such an institution, so equipped and manned, would also be the rational place for the courts to send prisoners awaiting trial under sentence, or what not, in regard to whom the suspicion of mental disease had arisen. It is my belief that such institutions should take the place of the present method of procedure in criminal cases in which the claim of insanity is raised. Perhaps they should not altogether take their place, but they should practically take their place. In a specific instance in which the question of insanity is under consideration, the prisoner could be sent to the psychopathic ward, held there for observation for a sufficient length of time, and a careful, detailed, and scientific report made to the court upon his case, without any alterations in our present methods of procedure or theory of practice. Such a report would necessarily carry tremendous weight in the decision of the case. I am not altogether in favor of making such a report a legal document in the sense that it would be controlling on the action of the court in any way, but let it go forward with its preponderant weight of authority, and I believe that in the large majority of cases it would carry everything before it.

Such a psychopathic ward as I have described above, adequately equipped and properly officered, with its organic connections with a large municipal hospital, would be a tower of strength in the community. It would put mental medicine on a scientific basis; it would establish the hospital for the insane in the confidence of the community; it would open its doors to dealing with the mentally ill when they needed help and advice, and when treatment would be beneficial; it would assist the courts in the administration of justice, and it would assist the sick man in getting justice; it would bring mental medicine into closer, more harmonious, and more organic relationships with internal medicine to the mutual advantage of both; it would form a nucleus for scientific research work that could be indefinitely elaborated; and, finally, it could form a center of social endeavor of great beneficence in the community. Not only might it be of value for the social worker, for the scientific eugenist, but it would be the natural center from which would radiate all efforts at popular instruction in matters connected with mental disease. The city that fails in its general hospital scheme to provide for a psychopathic ward loses a golden opportunity.

ETHER EXCLUSIVELY AS ANESTHETIC.

Mayo Anesthetist Finds No Necessity for Gas or Chloroform to Satisfy Her Surgeons.

"Ether, in the hands of a specially trained anesthetist, is safer and more serviceable than nitrous oxid," is the expressed belief of the surgeons in the Mayo clinic, Rochester, Minn., according to Miss Florence Henderson, R. N., anesthetist, who read a paper on this subject before the Southern Minnesota Medical Society recently. Miss Henderson thinks the literature tending to prove the greater safety of nitrous oxid over ether is misleading because the theory has been predicted on the fact that ether has been administered usually by untrained persons, while the gas has always been, and must always be, given by trained experts.

Miss Henderson says her operators like ether because of its wider range of usefulness, because it gives a better relaxation in difficult situations, and she blames many surgeons because they demand too great a relaxation, necessitating the carrying of the anesthetic to a dangerous point. She thinks many anesthetists fail with ether because they do too much rather than too little with the patient. She insists upon anesthetizing the patient in the operating room, because (1) the surgeon is present to see that things are right; (2) if the patient is put to sleep in another room while the surgeon is finishing up a patient in the operating room, someone will have to wait, and it will always be the patient, who is thereby undergoing an unnecessarily long anesthetic; (3) the patient will often vomit while being moved to the operating room because of the momentary let up in the anesthetic during removal.

Vomiting, after the anesthetic, Miss Henderson's surgeons think, is an advantage rather than otherwise, as it helps, by way of the stomach, in the process of elimination and clears the lungs as well as the stomach. Miss Henderson does not go into the choice of the anesthetic in heart and kidney cases, in which some surgeons think ether is contraindicated.

RECENT EXAMPLES OF HOSPITAL CONSTRUCTION IN EUROPE.

A Description of the Hospital and Sanatorium Beelitz, Near Berlin—Careful Attention Given to Details—Effects of the Workingmen's Insurance Act in Germany.

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PAPER I.

DURING several recent trips abroad the writer inspected in a number of German cities some of the latest examples of hospital planning, equipment, and construction. In these articles it is proposed to give a condensed description, illustrated by plans and views, of some of the hospitals visited. Prominent among these were the Hospital and Sanatorium Beelitz, near Berlin; General Hospital at Eppendorff, near Hamburg; Hospital for Insane at Doesen, near Leipsic; Municipal Hospital at Nuremberg; Rudolph Virchow Hospital at Berlin; Hospital Johann-Georgenstadt

Fig. 1. Hospital and Sanatorium Beelitz—General plan of location of buildings.

at Dresden; St. Elizabeth Hospital at Aix-la-Chapelle; Hospital for Insane at Buch, near Berlin; Allgemeines Krankenhaus St. Georg at Hamburg, and others.

HOSPITAL AND SANATORIUM BEELITZ, NEAR BERLIN.

It may not be generally known that throughout the empire of Germany workingmen are compelled by law to pay a percentage of their wages to an insurance bureau, which is managed by officers appointed by the state. In case of sickness the workingmen are entitled to free treatment in special hospitals erected in compliance with this law. While certain diseases are excluded, the hospitals receive not only those ill of chronic ailments, but also those suffering from tuberculosis, both male and female patients being admitted. The insurance boards are also authorized to give to the insured prophylactic treatment. About ten years ago the chief office of the National Insurance Institute for Berlin (the Landes-Versicherungsanstalt) conceived the plan to erect a large sanatorium and hospital devoted to the purposes named for both male and female patients. From the first it was contemplated to subdivide this into two parts—namely, a sanatorium, or general hospital, and a special hospital for tuberculosis patients. This meant the concentration of practically four hospitals on a building site. After many preliminary investigations and reports concerning the

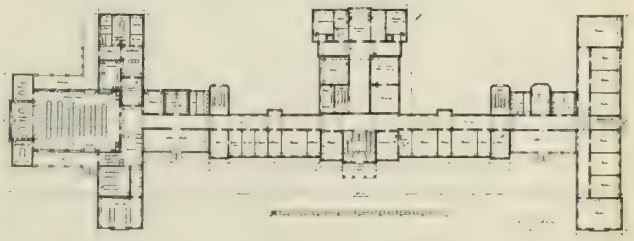

Fig. 2. Pavilion for male patients—First floor plan.

character of the soil, the general sanitary conditions, the water supply, drainage, etc., a suitable site was found at Beelitz, near Berlin. One feature of the site selected, which will be evident from the general plan (Fig. 1) is that the building site was divided into four parts by a railroad in one direction and by a highway in the other. The location, in the midst of pine woods, is a favorable one for tuberculosis patients.

The architects selected for the work were Baurat Schmieden and Regierung-Baumeister Boethke. Building operations were begun in the fall of 1898. The architects were assisted by several expert engineers, among them Herr Commerzienrat Henneberg and Baurat Herzberg, the former for the steam and ventilating plant and the latter for the water supply and drainage. Contrary to the practice prevailing in the United States, these advisory engineers also undertook the execution of the contracts for the work. In May, 1902, four years after the purchase of the property, the buildings were completed at a total

cost of 9,000,000 marks, or $2,250,000. The cost, figured per bed, amounts to $3,750, which, however, will be reduced when the contemplated additional buildings have been erected. The total annual cost of maintenance, including interest on the capital, amounts to $300,000. With 600 patients, this would amount to a daily expense per capita of $1.37.

All the buildings were erected of masonry in the most durable and solid manner, with the best available materials, but with avoidance of all luxury. The ruling principle throughout has been that for the construction and equipment of hospitals the best is the cheapest in the end, because it avoids expensive repairs and the replacing of materials.

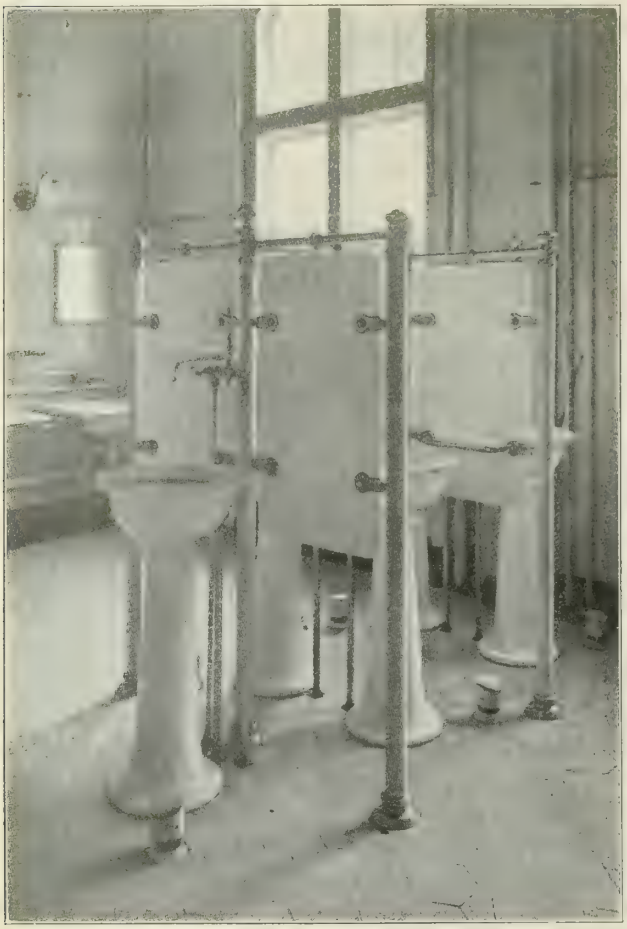

Fig. 3. Pavilion for male patients—Lavatory, with special bowls for mouth gargling.

DESCRIPTION OF SITE AND PLAN.

The hospital can be reached by an hour's railroad ride from Berlin. The site purchased comprised 140 hektar (346 acres) of woodland, densely covered with old pine trees. The subsoil is dry and healthful, and the trees afford protection against wind and dust. The road which passes through the hospital ground leads from Potsdam to the small town of Beelitz.

The plan (Fig. 1) shows the two general hospitals for men and women, marked A^1 and A^2, located southeast of the railroad, the one for men being east of the road and the one for women west of it.

The sanatoriums for tuberculosis patients are located northwest of the railroad, and are divided by the highway, so that the one for men is northeast and the one for women northwest of the railroad. These four parts of the hospital are separated from each other by fences, and each part has its own gate lodge. There is, however, only one kitchen and one laundry building for hospitals A^1 and A^2, there being another kitchen and laundry for hospitals B^1 and B^2.

The different buildings are placed so as to get the best possible exposure to the sun, and the patients' buildings are sufficiently remote from the railroad so that the patients are not unduly disturbed by the noise. The chapel and a central bath house are located outside of the fence inclosures, and are intended to be used by patients from all four divisions.

In arranging the buildings connected with the management, an attempt was made to locate all those in which male employees work—such as the boiler and engine house, workshop, disinfecting station, stable, gardener's house, and fire engine house—on the side for male patients; those buildings in which women employees work—like the laundries and kitchens—to be located on the female division. Each of the four subdivisions has one large hospital pavilion, and the four pavilions together contain about 600 beds. It is contemplated, however, to build additional pavilions.

In the plan (Fig. 1) the present structures are drawn in black ink, and future buildings are indicated by lighter lines. In planning the kitchens and laundries, the future enlargement of the hospital was taken into consideration. The sanatorium for men, A^1, contains an administration building, intended for all four subdivisions, and a dwelling house for the medical director, a workshop, boiler and engine house, water tower, railroad siding for coal delivery, two small pump houses, a central bath house, a building with a bowling alley, and a gate lodge. The sanatorium for women, A^2, contains, besides the large pavilion, a kitchen and a laundry building, and also a separate gate lodge.

The arrangement of the buildings B^1 and B^2 for tuberculosis patients is similar. These have their own kitchen and laundry building, but of course the engine and boiler house, administration building, pump house, and bowling alley are not duplicated here, their places being taken by the gardener's house, stable, fire engine house,

Fig. 4. Pavilion for male patients—General front view.

and the disinfecting and garbage destruction station. Important accessories, which are only on this side of the hospital, are the open-air pavilions intended for the open-air cure for tuberculosis patients. Nearly all the patients' rooms have a southern outlook.

HOSPITAL PAVILION FOR MEN.

Fig. 2 shows the first floor plan of this building, which is oblong, 146 meters (479 feet) long, with its main front to the south. The building has a second story and an attic; a part of it has a cellar. The majority of day and bed rooms are arranged on the south side and only a few at the east and west. Each story contains two large wash rooms, with one lavatory for each five patients, with special bowls for mouth gargling (Fig. 3), and also two toilet rooms, with water-closets and urinals. In the central side wing, extending to the north, there is an operating room, bath rooms, massage rooms, and rooms for electrical treatment on each of the floors. The extreme western end contains the large dining hall, with clerestory extending through the second floor. Adjoining the dining room there is a large pantry, where the dishes brought from the central kitchen are arranged and warmed and also washed. The dining hall is used as an entertainment hall and has a raised stage; there are also several large reading rooms. The building contains rooms for the examining physician and for the head nurses, and has six staircases. This pavilion contains 186 beds, but may be fitted up with 200. A view of the outside of this building is shown in Fig. 4. Fig. 5 shows the interior of the bath room; Fig. 6, interior of the operating room; and Fig. 7, a view of the outside porch.

PAVILION FOR FEMALE PATIENTS.

The floor plan of this pavilion is shown in Fig. 8 and a general view is shown in Fig. 9. The building is considerably smaller than the one for men, and contains 80 beds. Its construction and equipment, however, are very similar to those of the pavilion for male patients. Only a part of the building is provided with a cellar, in which the ventilating ducts, heating stacks, and water supply and drainage pipes are placed.

Fig. 5. Pavilion for male patients—Interior of bath room.

Fig. 6. Pavilion for male patients—Interior of operating room.

The dining room is much smaller than the one for men, and does not contain a stage. A large day room adjoins the dining room on the one side, and on the other side there is a pantry and scullery, and a dining hall for employees. In both stories the required number of toilet, bath and lavatory rooms are provided, including a special room with five bidet fixtures.

HOSPITAL PAVILION FOR MALE TUBERCULOSIS PATIENTS.

The floor plan of this pavilion, shown in Fig. 10, is quite similar to the hospital pavilion for men,

Fig. 7. Pavilion for male patients—Outside porch.

and contains approximately the same number of beds. In view of the fact that hydrotherapeutic treatment is used for many of the tuberculosis patients, the central wing has a number of rooms devoted to this purpose. As will be seen from the plan, the patients are taken to a large dressing room, and from here into either the bath room proper or electric bath division, or into the rest room. Most of these rooms are finished entirely with enameled brick, and even the arched ceilings are so finished. A view of the bath room for men is shown in Fig. 11, and there is a special hydrotherapeutic room.

PAVILION FOR FEMALE TUBERCULOSIS PATIENTS.

A floor plan of this building is shown in Fig. 12. It contains 70 beds besides a few reserve beds. The west wing of this building contains the bath rooms, and a smaller hydrotherapeutic bath room is placed near some of the bed rooms, being intended for those patients who cannot walk to the main bath room.

ENGINE AND BOILER HOUSE.

A view of this house is shown in Fig. 13, the chief feature of this group of buildings being the water tower, containing the elevated water tank. The boiler house contained originally five high-pressure steam boilers, intended for the electric lighting plant and for the supply of hot water to the laundry and kitchen. Subsequently an additional boiler room with nine boilers was added, and the two together furnish the steam for the heating of all the buildings. The boiler house contains also rooms for the chief engineer and firemen, workshops for blacksmiths and plumbers, store rooms, wash rooms, and bath and toilet rooms. In the southern end are located the engines and dynamos, plant for the filtration of water, and refrigerating plant. A large battery of accumulators in connection with the lighting plant is located in the cellar. The upper floor contains living rooms for the fireman and machinists.

KITCHEN BUILDING.

The kitchen building, the plan of which is shown in Fig. 14, contains a cellar, two floors, and attic. The center of the ground floor is given up to the large kitchen, which has a clerestory reaching through the second floor. It is arched over and finished entirely with enameled brick. On one side of the kitchen are arranged the store rooms for provisions and the meat refrigerator; on the other side is located a large scullery, pantry for dishes, another pantry for the preparing of the dishes and a dining hall for the employees. The second floor contains rooms for stores and bed rooms for the female employees.

The kitchen building for division A is intended for 400 people and the kitchen building for division B for 600 people. In the latter the equipment of the kitchen consists of the following: one vegetable kettle, one soup kettle, one meat kettle, one potato kettle, one coffee kettle, one milk kettle, two kettles for various foods, one large range with two fire pots and eight ovens,

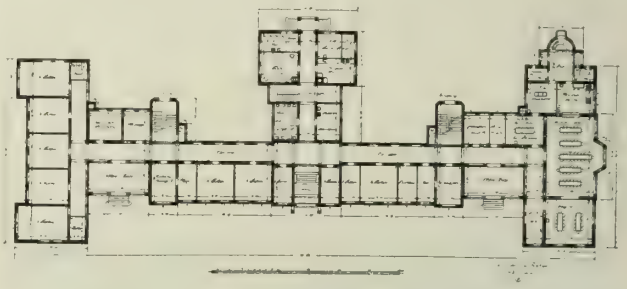

Fig. 8. Pavilion for female patients—Floor plan.

another range for baking, five tipping vessels, one bain-marie, and several sinks.

The cooking vessels are constructed with double walls, the outer one of cast iron and the inner one of pure nickel. The covers of the vessels are counterbalanced by weights and close tightly without rubber packing. The cooking vessels are supplied with steam under seven and one-half pounds pressure.

LAUNDRY BUILDING.

Fig. 15 shows the plan of one of the two laundry buildings, which is about the same size as the

Fig. 9. Pavilion for female patients—General front view.

kitchen building. The ground floor contains the following rooms: receiving and assorting room, soaking room, large wash room, drying room, steam mangle room, ironing room, store room for the wash, repairing room, and room where the wash is delivered. The large wash room contains three cylinder washing machines and two centrifugal wringers. The second story contains rooms for the employees.

BUILDING FOR DISINFECTING PURPOSES AND GARBAGE REFUSE DESTRUCTOR.

The floor plan of this building is shown in Fig. 16. It has the usual subdivision into two sides, one for the articles to be disinfected and the other for the disinfected articles. It also contains a dressing room and a spray bath for the employees. There is also a small room for the keeping of dead bodies, a room for autopsies, and a special room for the refuse destructor or incinerator. This is intended for the destruction by fire of all soiled bandages, of all litter and refuse from the hospital buildings, and of dissected parts of bodies.

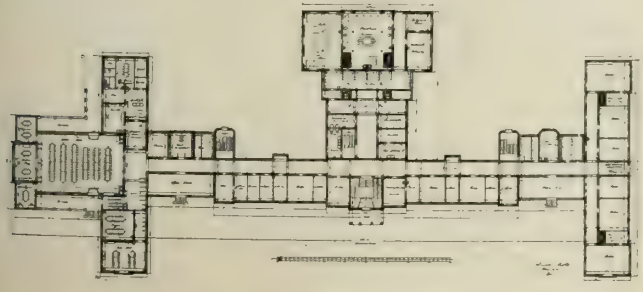

Fig. 10. Pavilion for male tuberculosis patients—Floor plan.

CENTRAL BATH HOUSE.

Notwithstanding the fact that the four pavilions are generously provided with bath rooms and rooms for massage, it was deemed advisable to provide in addition very elaborate bathing installations in a central bath house. This is chiefly intended for hydrotherapeutic treatment—for the giving of medical, steam, electric, sand, moor, and

Fig. 11. Pavilion for male tuberculosis patients—Interior of bath room, with hydrotherapeutic appliances.

sulphur baths. Fig. 17 shows the first floor plan of this building. The various treatments by baths are given on the first floor. The second floor contains a large room for mechano-therapeutic appliances, room for gymnastic exercises, sulphur bath, room with carbonic acid and electrical baths, and a room for special medical baths. This building is very elaborately fitted up with all the

latest appliances and devices for treatment, and is in all respects a model of its kind.

CHAPEL BUILDING.

The chapel building contains room for 200 seats, and is intended for religious services for Protestants and Catholics alike.

ADMINISTRATION BUILDING.

The floor plan of this building is shown in Fig. 18. It is a two-story and attic building, containing on the first floor reception rooms, offices for the management, office for the managing physician, club and reading room for the physicians, and druggist's room; on the upper floors are rooms for the assistant physicians and chief inspector; and in the attic are rooms for some of the male nurses.

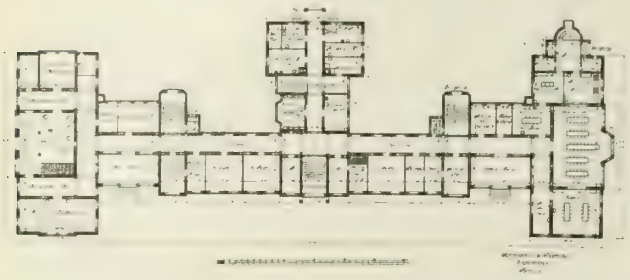

Fig. 12. Pavilion for female tuberculosis patients—Floor plan.

The management of the hospital is placed under a board of administrators, with the chief inspector of the Insurance Institute as chairman.

Fig. 13. Engine and boiler house, with water tower—General view.

The medical staff comprises two chief physicians, eight other physicians, two matrons, three chief sisters, seven sisters, and fifteen male attendants or nurses. The other employees comprise 138 persons, of which 61 are employed in connection with the mechanical plant, and 25 or more (at certain seasons) look after the gardens, walks, and grounds.

OPEN-AIR PAVILIONS.

Fig. 19 shows a view of one of the open-air pavilions, which form an important part of the hospital for tuberculosis patients. The men's side contains four such pavilions, each 45 meters (147.6 feet) long and 5.7 meters (18.7 feet) deep, having room for 48 chairs and accommodating together 192 patients. On the woman's side there are two pavilions, each containing 40 chairs, and the pavilions are 72 meters (236 feet) long.

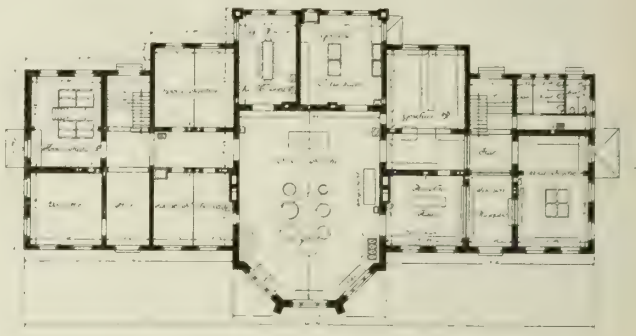

Fig. 14. Kitchen building—Floor plan.

BOILER PLANT.

As already mentioned, the boiler plant is placed in two separate but adjoining buildings, intended to contain eventually fourteen boilers. The southern boiler room contains at present five Cornwall boilers and the northern one contains three boilers. There are two boiler chimneys, one being 43 meters (141 feet) high and 1.7 meters (5 feet 6 inches) in diameter at the top, the other one being 45 meters (147.6 feet) high and 2.2 meters (7 feet 3 inches) in diameter at the top. The boiler pressure carried is 120 pounds, and the two groups of boilers are cross-connected. There are four boiler feed pumps, and the tanks for condensed water are intended as feed-water heaters.

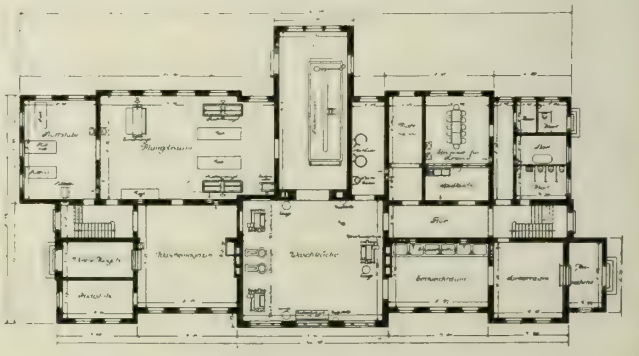

Fig. 15. One of the laundry buildings—Floor plan.

All the steam required in the different buildings for heating and other purposes is generated at this central plant. The longest distance from the boiler house to one of the buildings is 1,250 meters (4,100 feet). The steam pressure is reduced at two points to 97 pounds, and all the

steam mains are carried in large tunnels connecting the various buildings with the boiler house. The tunnels are arranged in the roads, and their top covering, which consists of reinforced concrete, serves at the same time as a sidewalk. The main pipe tunnel is 250 meters (820 feet) long, 2 meters (6 feet 6 inches) wide, and 2.1 meters (7 feet) high. It contains, besides the steam mains, the pipes for hot water and the electric wire conduits. Another main tunnel runs to the hospitals for tuberculosis patients, is 810 meters (2,657 feet) long, and crosses under the railroad.

Duplicate steam mains are provided—one for summer and the other for winter use. The diam-

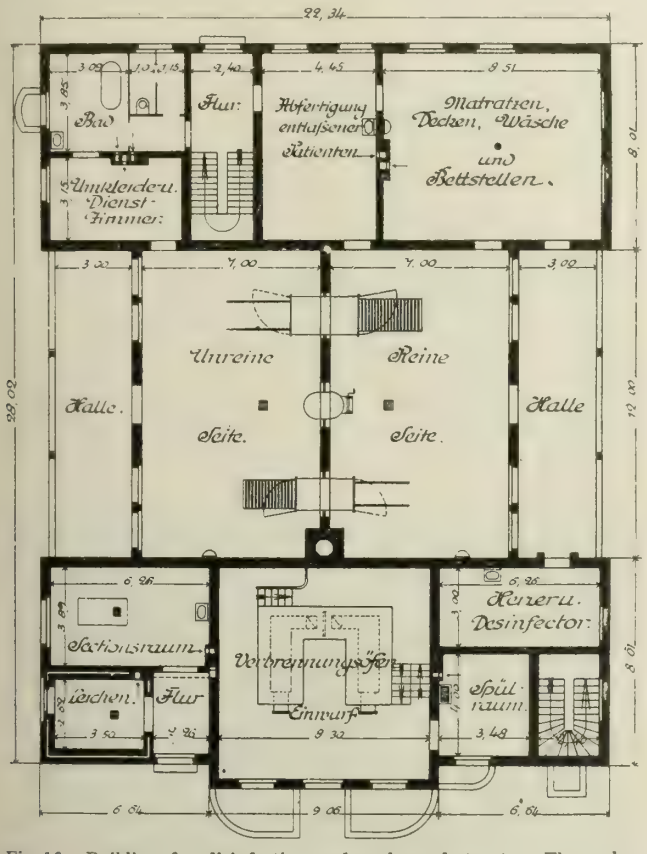

Fig. 16. Building for disinfecting and garbage destructor—Floor plan.

eters of the steam mains are respectively 131 and 180 millimeters (5 and 7 inches).

The tunnels are specially well ventilated by means of openings, which also serve as safety exits, the distance between these openings being approximately 80 meters (262 feet). These tunnels are lighted by plates of glass placed in the sidewalks and ceilings of the tunnels at distances of approximately 27 feet, and there are also electric lights in the tunnels.

All steam pipes are covered with nonconducting covering, and all buildings are furnished with steam heat from the central plant. Certain temperatures are stipulated in the specifications. With an outdoor temperature of —20° C. (— 40° F.) the various parts of the building are heated as follows: + 22° C. (+ 72° F.) for examination rooms, dressing rooms, bath rooms, etc.; + 20° C. (+ 67° F.) for living and sleeping rooms, dining hall, wash rooms, reading rooms, and lavatories; + 18° C.

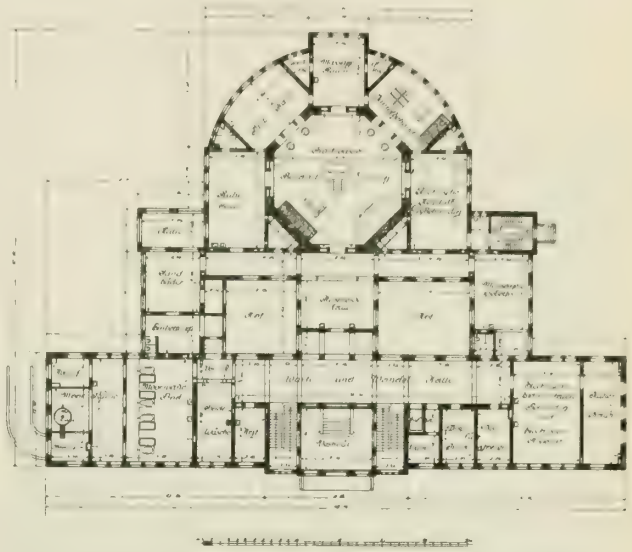

Fig. 17. Central bath house, with hydrotherapeutic appliances—Floor plan.

(+ 65° F.) for scullery, pantries, and anterooms; + 15° C. (about + 60° F.) for corridors, staircases, vestibules, toilet rooms, laundry rooms, etc. Heating is accomplished by low-pressure steam under one and one-half pounds pressure.

The living, sleeping, and day rooms of the pavilions for tuberculosis patients are not heated by steam, but by warm water, which was considered by the consulting physicians to be the most desirable mode of heating. Warm-water heating is also arranged for the residences of the two medical directors. For this purpose the cellars of these buildings are provided with hot-water boilers, in which the water is heated, not by coal,

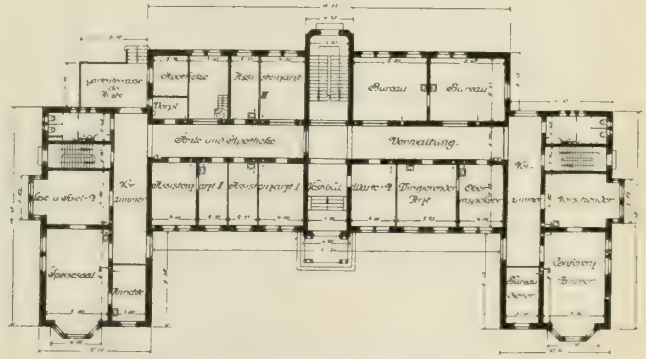

Fig. 18. Administration building—Floor plan.

but by high-pressure steam from the central plant.

A feature of the steam heating is the radiators, which are placed in the window niches and arranged with hinges, so that they can be swung

out to permit of their cleaning and of the cleaning of the walls (Fig. 20).

In only one building—in the central bath house—furnace heating has been provided for those rooms in which there is much watery vapor generated by the application of baths.

VENTILATION SYSTEM.

The requirements of the building program were as follows: a change of air once an hour in the

Fig. 19. An open-air pavilion—General view.

rooms for nurses and physicians; a change of air one and one-half times an hour in the corridors and staircases; a change of air twice an hour in the rooms of patients, day rooms, dining halls, wash rooms, reading rooms, examination rooms, and rooms for hydrotherapeutic treatment; a change of air three times an hour in the bath rooms, sculleries, pantries, and lavatories; a change of air five times an hour in the water-closet rooms.

In the pavilions for tuberculosis patients and in the central bath house the fresh air is tempered by steam, but the general hospitals have only a central ventilating system in the dining room, stairs, and bath rooms. All the other buildings have only local systems of ventilation.

In the central system of ventilation fresh air is drawn in through outside fresh-air turrets and is conducted through underground ducts to the buildings, where it is filtered, warmed, and moistened. The warming is performed by low-pressure heating stacks.

In the two pavilions for tuberculosis patients the fresh air is forced into the warm-air tubes by means of two ventilators operated electrically. In the rooms the fresh-air registers are located about 2.5 meters (about 8 feet) above the floor, and the registers are not less than 26 x 32 centimeters (10 x 13 inches).

Wherever the ventilation is a local one, fresh air is admitted through openings located under the windows, and the fresh air is warmed by passing over the radiators standing in the window jambs. The foul air is removed by means of foul-air conduits carried above the roof. Both kinds of conduits are finished with glazed brick.

The rooms for patients and the bath rooms have two registers—one near the floor and the other near the ceiling; toilet rooms and rooms with slop sinks have only one register near the ceiling. All windows are provided with upper transoms. All toilet rooms, compartments for house maids' sinks, and compartments for the washing of linen are ventilated by drawing fresh air from the corridors, in which the fresh air is under slight excess of pressure from the electrically driven ventilators. The various foul-air flues are gathered together in the attics and carried to ventilating chimneys, in which a coil is located heated by high-pressure steam.

WATER SUPPLY.

No public supply to which the hospital could have been connected being available, it became necessary to provide an independent water supply plant. The sources of supply are wells of about 42 meters (138 feet) in depth. The water is of a medium degree of hardness, quite pure, and suitable for use in the boilers. It contains some iron, which is removed by special filters.

Fig. 20. A typical radiator—On hinges to permit cleaning of radiator and wall.

There are two deep wells, located about 70 meters (230 feet) from the boiler house, and the upper portion of each well is 2.5 meters (8 feet) in diameter and 19 meters (62 feet) in depth. From this depth downward a tube 30 centimeters (12 inches) in diameter is driven to the water-bearing stratum of sand. The well pumps are located at the bottom of these shafts and are operated by motors from the central station. The capacity of each pump is 10,000 gallons per hour. The

two pumps, when running twelve hours, are able to furnish about 250,000 gallons of water daily. Provision is made for about 150 gallons of water per capita per day. The water is pumped up to a wrought-iron elevated tank of 250 cubic meters (66,042 gallons) capacity.

One of the boiler chimneys passes through the center of the reservoir, which is built annular in plan, and in this way the freezing of the reservoir is prevented. The reservoir is built in two compartments, which communicate, but can be used separately or alternately. A mercury gauge placed in the engine room indicates the amount of water in the tank.

The filters for the removal of the iron in the water are of special construction, four in number, each of a capacity of 30 cubic meters (7,925 gallons) per hour. They contain wood shavings impregnated with dioxide of tin. A falling main, 25 centimeters (8 inches) in diameter, leads the water from the elevated tank to the network of distributing mains of the buildings.

The supply of warm water is, for some unaccountable reason, arranged differently in divisions A and B. While in division A a central hot-water plant had been arranged, the buildings of division B have each a separate hot-water boiler. Return circulation lines are provided in all cases. The diameters of the hot-water supply mains are 15 centimeters (6 inches). Expansion joints in the lines of hot water supply are provided at distances of every 15 meters (50 feet).

All pipes supplying hot water to the fixtures are of copper. All plumbing work is very substantially constructed and arranged strictly in an open manner. All faucets and valves are made of white metal. The slop sinks and closets are of earthenware and the bath tubs are of nickel-plated steel.

SEWERAGE.

The buildings are provided with two sets of pipes—one for the removal of storm water from roofs, paved areas, and walks, and the other for the sewage from the fixtures in the buildings. All lateral sewers join a main sewer, which is a 35-centimeter (14-inch) pipe sewer, about 2 kilometers (6,562 feet) long, carrying the sewage by gravity to an irrigation field. The irrigation field is about 5 hektar (12,35 acres) in size and located on a gentle slope. The purified sewage finds its way into a small brook.

REFRIGERATING PLANT.

The boiler house contains a compression refrigerating machine in which sulphuric acid is used, and has a capacity of 43 zentner (2.2 tons) of ice per day.

ELECTRIC LIGHT AND POWER PLANT.

This plant comprises two dynamos, one reserve dynamo, and one accumulator battery. Each of the dynamos has a capacity of 85 kilowatts with 160 R. P. M. The engines running the dynamos are of 100-horse power and can be increased to 150. The exhaust steam from the engines is used to warm the water in the central hot-water plant.

The lighting plant comprises 2,600 incandescent lamps of 16-candle power, 146 lamps of 25-candle power, 50 arc lamps, 8 motors for ventilation, and 64 plugs or connections for therapeutic uses.

CONSTRUCTION OF FLOORS AND FINISH OF WALLS.

The selection of a suitable floor for hospitals and sanatoriums is one of the most difficult problems, which has so far not been solved quite satisfactorily. Requirements of a perfect floor are a smooth surface, tight joints, strength, durability, imperviousness to moisture, nonconduction of heat, good appearance, and reasonableness of cost. Usually the floors in hospitals are made of terrazzo, unglazed tiles, linoleum, or parquet laid with asphalt joints.

In the hospital described terrazzo has not been used at all, and linoleum only for the covering of the stairs. Tiled floors have been used abundantly, and parquet floors have been used in bed rooms, day rooms, and dining rooms. The corners between walls and floors are rounded. All the corridors, bath rooms, pantries, and toilet rooms are covered with hexagonal tiles.

The walls in sculleries, kitchens, and bath rooms, where there is much steam vapor, are finished entirely with glazed or enameled brick, which is also used for the arched ceilings. Panels of glass are used in the wash rooms, bath rooms, pantries, sculleries, and operating rooms.

Censorship to an Extreme.

An article in the current number of the *English Review* severely criticises the prudery of the British Museum in refusing to issue books on sex subjects. Such books are practically buried, as they are not listed either in the author or subject index, and no information is given as to how they can be obtained. They recently refused to accept and catalogue Havelock Ellis' Psychology of Sex. Physicians and serious students of all kinds are thus deprived of valuable literature which no other library is in a position to furnish in such abundance or so promptly.

In the death of Dr. Edward Charles Spitzka, in New York City on January 14, the profession loses a noted neurologist, anatomist, and alienist. He has long been an acknowledged authority in mental diseases. Dr. Spitzka was one of the scientists selected to witness the first execution by electricity in New York state, and was a witness at the trial of Guiteau, the assassin of President Garfield. He gave as his opinion that Guiteau was insane.

ORGANIZATION OF THE NURSING DEPARTMENT OF JOHNS HOPKINS HOSPITAL.[1]

Method and System Are of Paramount Importance, But All Hinges on Attention to Details—Quality of Work of Greater Moment Than Quantity.

By MISS E. M. LAWLER, R. N.,
SUPERINTENDENT OF NURSES AND PRINCIPAL OF THE TRAINING SCHOOL.

PAPER IV.

SINCE the establishment of the training school for nurses in connection with the Johns Hopkins Hospital, nearly twenty-five years ago, the policy of the school has remained the same, though necessarily many changes have taken place in the organization to adequately meet the demands of a growing hospital.

The staff now consists of superintendent of nurses and principal of the training school, 1; assistants, 8; head nurses, 36; student nurses, 154; post-graduates, 8; special students, 10; graduates on ward duty, 8; graduates on special duty (average), 48. Of the assistants, three are in charge of departments—the psychiatric clinic, children's clinic, and nurses' home. Four are in the office of the superintendent of nurses, and one is in charge of the nursing during the night. Those in charge of departments have had experience in the office as well as special preparation elsewhere, to fit them for their larger responsibilities.

In both the psychiatric and children's clinics there is an assistant in addition to the head nurses, and they with their assistant carry on all the teaching work in connection with their particular departments.

In the nurses' home the assistant in charge is a real "house mother." She is responsible for the home care of the pupils, and makes rounds with the physician on his daily visit at 9 a. m. She issues all instructions regarding the making and the repairing of the nurses' uniforms. She engages her own servants, is responsible for the housekeeping, the planning of the menu, and the ordering, preparation, and serving of the food. She has as her assistants a graduate dietitian and a senior student.

The first or senior assistant is kept well in touch with the general work of the office. She is responsible for the records pertaining to the special nurses. She engages the orderlies, assigns their work, and has the general oversight of it, and has also the general supervision of the pavilion for private patients, with particular reference to the work of the maids and orderlies.

To the second assistant is assigned the duties of instructor. She is responsible for the teaching of senior and intermediate students, with the exception of those subjects taken up by special instructors, as psychiatry, pediatrics, massage, etc. She manages the monthly schedules of classes and lectures for the school, and has assigned to her a certain number of wards for general supervision, where she may carry on her teaching.

The third assistant has the teaching of the junior class and of the practical nursing, and follows up the work of her pupils in certain definite wards.

The fourth assistant has the teaching of the preparatory students and is in charge of the surgical supply room. Here is kept the stock from which she distributes weekly, on requisition, instruments, gauze, rubber gloves, etc. Practically all the dressings used in the entire hospital are prepared here under her supervision, and given out to the different departments on a daily order.

Each of these assistants has definite hours on duty, and some one of them is required to make the evening rounds of the hospital, and at 9 p. m. give the night superintendent, who comes on duty at that time, a report of the condition of the different wards. By this arrangement there is no time when head nurses, with difficulties to solve, cannot in a few minutes refer the matter to someone competent to handle it.

The night superintendent is in charge of the hospital from 9 p. m. to 7 a. m., and is off duty one night a month. She receives a full report of the condition of the hospital when she comes on duty, and in turn reports to the superintendent of nurses when she goes off duty at 7 a. m. She is responsible for the nursing care of the patients during the night, and has the supervision of all nurses and orderlies, with the exception of the two special departments, psychiatry and pediatrics, which are in charge of graduate nurses.

The head nurses are in charge of the wards, operating rooms, out-patient department, etc., and they are given complete charge of their departments—that is, they see that the patients receive the proper attention, that the work of the orderlies and maids goes on as it should, and that the ward is properly taken care of. They make out the requisitions for all supplies, such as food,

[1] This is the fourth of the series of papers on Methods of Administration in Johns Hopkins Hospital. Next month, "The Housekeeping Department," by Miss Crawford, Matron.

THE JOHNS HOPKINS HOSPITAL TRAINING SCHOOL.

Name..... Class.....

	S. S. R.	Diet School	Pharmacy	Orth. Clinic	Disp. Clinic	H. L. H.	Wards	Subject	No. Lectures	No. Classes	Lecturer	Instructor	Result Exam. Class		Vac.	Ill	Prac. Work	Staff Mark		
Preparatory								Anatomy												
								Dietetics												
								Practical Nurs.												
								Bandaging												
								Materia Med.												
Junior year	Private Wds	D	E	F	G	H	I	M	O	Mtry.	H. L. H.	Phipps	Op. Room	In Chg.	D. S.	Disp.	Vac.	Ill	Prac. Work	Staff Mark
Time on duty	D N	D N	D N	D N	D N	D N	D N	D N	D N	D N	D N	D N	Gen Gyn.							
Intermediate year																				
Senior year																				

Preparatory Class result. Stood.....in class of..... Intermediate Year result. Stood.....in class of.....

Junior Year result. Stood.....in class of..... Senior Year result. Stood.....in class of.....

Fig. 1. Johns Hopkins Hospital—Nursing department record system. Front side of card. Size of card, 9½x8½ inches.

surgical dressings, household supplies, etc., and see that these are carefully handled, and have ample opportunity to give bedside instruction to the student nurses. These requisitions are submitted to the superintendent of nurses, and by her to the superintendent of the hospital. The head nurses report the condition of their departments twice a day—in the morning to the superintendent of nurses when she makes the rounds, and again when evening rounds are made.

The school now numbers 154 pupils. Of these 41 are senior students, 49 are members of the intermediate class, and 64 are junior students, 39 of these last being still in the preparatory class, and therefore not on duty in the hospital wards.

The nurses are so assigned to the different departments that each head nurse will have on her staff seniors, intermediates, and juniors, which simplifies the arrangement of the nurses' hours, and allows the students to attend classes and lectures without interfering with the work connected with the patients. Changes in the staff are made with as much regularity as possible, so that the head nurse may be able to plan the work in advance. For example, in the maternity ward, operating rooms, and special departments one nurse is changed each Monday morning.

The pupil spends her three years in the school as follows:

Preparatory course	6 months
Care of children	4 months
Medical nursing	4 months
Surgical nursing	4 months
Gynecological	4 months
Private wards	4 months
Operating rooms	3 months
Out-patient department	1 month
Maternity ward	2 months
Phipps psychiatric clinic	2 months
Vacation	2 months
	36 months

Students are admitted during the spring and autumn, which means that the lectures and classes for the preparatory students are given twice during the year. These students are on duty six hours daily, in surgical supply room, diet school, pharmacy, or assisting at clinics, but are in the hospital wards only when under the guidance of an instructor until toward the completion of the preparatory course. They then are placed on duty in the wards on the regular eight-hour schedule for about two weeks, when the final test of their fitness to remain is made.

With the other classes, instruction in the class room is carried on from October to May, the mini-

Subject	Lecturer	Instructor	JUNIOR					INTERMEDIATE					SENIOR				
			No. Lectures	No. Classes	Date Exam.	Exam. Result	Class Work	No. Lectures	No. Classes	Date Exam.	Exam. Result	Class Work	No. Lectures	No. Classes	Date Exam.	Exam. Result	Class Work
Meteria Med.																	
Hygiene Bact. Path.																	
Internal Medicine																	
Infectious Diseases																	
Constitut. Diseases																	
Surgery																	
Gynecol.																	
Urinalysis																	
Massage																	
Orthopedics																	
Obstetrics New Born																	
Children																	
Psychiatry																	
Eye, Ear, Nose, Throat																	

Fig. 2. Johns Hopkins Hospital—Nursing department record system. Reverse side of card. Size of card, 9½x8½ inches.

mum number of lectures and classes per week for each class being three. These are, with very few exceptions, held during the day, and are given almost entirely by paid instructors.

The day nurses have for years been on the eight-hour and the preparatory students on a six-hour schedule, with a half day on Sunday and on all public holidays. One hour is always allowed for meals. The night duty, of which each student has during her training between four and six months, is ten hours, or from 9 p. m. to 7 a. m.

The head nurse must so arrange the hours of her nurses that the ward is taken care of from 7 a. m. to 9 p. m. by the day staff, each nurse being on duty eight hours. The following may give some idea of how it is done:

Senior .....on duty 7 to 9 and 1 to 7
Intermediate .....on duty 7 to 1 and 7 to 9
Intermediate .....on duty 7 to 1 and 5 to 7
Junior .....on duty 7 to 11 and 3 to 7
Junior .....on duty 7 to 12 and 1 to 4
Junior .....on duty 7 to 12 and 4 to 6 and 7 to 8

The head nurse is on duty from nine to ten hours per day, as she can arrange her work, and is off one afternoon during the week and half of Sunday.

The day nurses assemble for prayers in the nurses' home at 6:50 a. m. At this time the announcements are made concerning the change of nurses from one department to another. They then go directly to their respective wards, where they report for duty, taking their places according to their seniority in the office of the head nurse, to hear the night nurse present her report and to receive their working orders for the day. At this time they are required to read all orders left during the night and all special charts.

The night nurses assemble in the nurses' home at 9 p. m. and report for duty to the night superintendent. They then go to their respective wards and take over the work from the nurse on duty at that time.

In addition to the pupil nurses, we have eight post-graduate students on duty in the children's department and the psychiatric clinic. These students receive definite training and instruction in each of these departments, the lectures and classes being given by paid instructors, and a certificate is granted after satisfactory completion of the course.

We have also affiliations with two hospitals in the city, one sending its students for four months'

practical training and for almost all their lecture work, and the other sending its students for ten weeks' work in obstetrics; and finally we have three special students who are receiving from one year's to eighteen months' training, to allow them to qualify for state registration.

As it was impossible for the school to grow rapidly enough to provide nurses to equip the two new departments added to the hospital, it has been necessary to add to our staff a certain number of graduate nurses. We have at present eight on duty, and these come under the same regulations regarding hours as the pupil nurses.

The records of all students who are or who have been connected with the school are to be found in the office of the superintendent of nurses. The card index system is used, and the names are indexed under the headings, "pupils of the school," "post-graduate students," and "special students." Under the first will be found the complete record of any pupil who has been connected with the school, even if she has been only a pupil in the preparatory class for a few weeks. Under the second will be found the papers of the post-graduate students, which include their application papers, letters of recommendation, record of their service, and results of written examinations and practical work. Under the third will be found the information concerning the affiliated students. Only a brief statement regarding their work is filed, as a report is sent at the completion of their time with us to the schools of which they are members. Though the majority of training schools today employ much the same method of recording the work of each student, yet it might be interesting to present ours in detail.

When the application for admission is received, the papers—including personal letter, clergyman's letter, and doctor's certificate—are attached to a card on which is copied a brief summary of the information contained in all of these; also a statement as to whether the applicant is to be admitted or rejected, and, if the former, of which class she is to be a member. When the pupil enters on her probation she is entered in a day book, and each change from one department to another is recorded in this book on the date that it takes place. A record is also kept, which is made up monthly, showing how many days have been spent in each department up to that date. These records are continued throughout the three years.

Detailed reports concerning the work of each student are recorded monthly by the instructor or head nurse under whose supervision she has been. These reports are filed with the student's papers. At the end of the probation period and of each school year a summary of these reports—a statement as to time spent in the different departments or wards, and a record of class work, number of classes and lectures attended, standing in classes and examinations, and by whom instruction is given—is recorded on a card which is placed in the folder with the application papers. Should a student leave the school, her record is made up to date, and a statement added giving full information as to cause of withdrawal. Her record is completed by adding a note stating in which department she was most proficient or wherein she had failed. By reviewing these records it is possible to assist the student in making her decision for future work, whether institutional, teaching, or private duty, and it is a ready reference for any inquiry which should be made concerning her efficiency.

It has been difficult to adequately describe the organization of this training school in a brief paper owing to the fact that simple statements are made without describing the detail, and, to get a clear idea of any system, the detail is tremendously important, as it is mainly on this that the efficiency of a system of organization depends.

WORKSHOPS FOR TUBERCULOSIS HOSPITALS.

New York Passes Model Law Under Which Communities May Provide Work for Patients.

Dr. Hermann M. Biggs, general medical officer of the city of New York, is responsible for the recent passage of a bill in the New York Legislature to favor the establishment of industrial colonies in connection with the tuberculosis sanatoriums of the state. This bill is such a model of conciseness that it may serve other states and municipalities as an example for similar action:

WORKSHOPS IN CONNECTION WITH TUBERCULOSIS HOSPITALS—Any municipal corporation maintaining a hospital or a sanatorium for the treatment of tuberculosis may establish and maintain workshops in connection therewith for the production of articles of supplies required by such hospital or sanatorium, or by any other institution or department of such municiplity. Except in a supervisory capacity, no person shall be employed in such workshop or workshops unless he is or shall have been a patient suffering from tuberculosis in such hospital or sanatorium. The appropriate municipal authorities may appropriate or provide funds for the establishment and maintenance of the said workshops in the same manner as for the establishment and maintenance of such hospitals or sanatoriums. Notwithstanding the provisions of the prison law in relation to the sale of articles manufactured in the state prisons, the products of such workshops may be used in such hospital or sanatoriums, or by any other institution or department of such municipality. Such workshops shall be under the direction and control of the hospital or sanatorium to which they may be attached.

This act shall take effect immediately.

The Louisville (Ky.) *Post* believes faith in a hospital to be dependent on the character of the men conducting it, being an observation in connection with the new $1,000,000 buildings of the new Louisville City Hospital. The hospital must, according to that paper, create public faith by dissemination of the right kind of literature to inform the public of its work and needs.

THE MUNICIPAL CITY HOSPITAL AT LOUISVILLE, KY.

A Partial Description of This Newly Erected Institution—The Constructive and Service Features Shown by Experience to Meet Modern Necessities Have Been Incorporated.

By J. W. FOWLER, A. M., M. D., Ph. D., Superintendent.

THE world bows in admiration to the genius of the hospital architects of Europe who have wrought such wonderful structures for housing and caring for the sick and wounded. The western hemisphere salutes the constructive originality of the hospital experts of America, and sings a pean to the brilliant galaxy of hospital superintendents and architects who have contributed to mankind the most perfect temples of the healing art, and added many enduring blessings to the glories of the hospital world.

Fig. 1. Louisville City Hospital—Five of the eleven buildings.

It is said that all we say, or think, or write is imperishable. If this is true, I would write a grateful tribute to the hospital sages of our own country, tendering to each of them a bouquet of flowers that would be as fadeless as the immortelles that grow high on the tropic mountain side.

Here in the sunny southland, at the Falls of the Ohio, "we sing ourselves," and our song is attuned to our new modern City Hospital, of a composite pattern, made up of all that is best from the old and new world, and fresh from the constructive brains of the most noted hospital experts of the South.

GENERAL DESCRIPTION.

The hospital consists of a group of eleven buildings, situated in the heart of the city and occupying a ground space of about five acres, designed by D. X. Murphy & Bro., of Louisville. All but the isolation ward, power house, and employees' home are three-storied buildings, with high basements. A wide corridor extending the full length of the group of buildings, running east and west, connects the wards and the nurses' home on the south, and the power house, psychopathic, hydrotherapeutic, service, and clinical wards on the north. The main axis of the large wards is north and south.

It may be a matter of interest to state that one of the architectural difficulties to overcome south of Mason and Dixon's line is a racial one, making it necessary to duplicate the wards, dining rooms, etc., in order to separate the colored from the white patients.

ADMINISTRATION BUILDING.

The administration building is approached by a flight of white stone steps to a commodious terrace, which leads to a magnificent lobby, on the right side of which are situated the main office, with marble counters, and the superintendent's office. At the left of the lobby is the physicians' meeting room, with lockers and toilet rooms. The administration building connects with the main corridor through a link, in which are the

elevators and stairs. The elevators are cut off by fireproof partitions, and are lighted through wire glass in metal frames. The stairs are protected by a fire-wall throughout the building that makes them perfect fire escapes and also makes of each floor a separate unit, preventing the transmission of noises and cross infections. The stairs are built monolithic, of reinforced concrete, faced with terrazzo, rendering them aseptic and easily cleaned.

In the second floor of the building are the superintendent's apartments. The living rooms of the interns are located on the third floor, where they have a reading room, a lounging room, and the conveniences of shower baths, bath rooms, and toilets.

On the roof of the building is a semi-inclosed roof garden for children. It is roofed over, and the sides and ends are inclosed in glass casements, which may be thrown open or closed.

SERVICE BUILDING.

To the north of the main corridor, opposite the administration building, is the service building. In the basement are the kitchen, bakery, receiving rooms for groceries, meats, milk, etc., cold storage rooms, and dining rooms for help. On the first floor are the dining rooms for the superintendent, interns, and nurses. The serving pantry connects with the kitchen below by an electric dumb waiter. In this building is an amphitheater, with four hundred seats, for clinical lectures. On the second floor is the medical library. The third floor is devoted to the operating rooms and their accessories. There are five operating rooms, and all of them have northern light. Modern practice condemns the large operating amphitheater, and therefore it was omitted. Skeleton iron stands, accommodating a limited number of students, are used for clinics. There is a large work room, with connecting toilet rooms for nurses, and a large room for surgeons with individual lockers and toilets. There is also a laboratory, where immediate tests may be made.

WARD BUILDINGS.

There are four ward buildings, two on either side of the administration. Each building contains three wards, making twelve in all. A ward consists of a "head house," the ward itself, and a solarium. There are 24 beds to each ward, each bed having 1,170 cubic feet of space. There is a window extending to the ceiling between each pair of beds, with vertical sliding sash and a hopper transom, hinged at bottom to open inwardly, with slide to direct the current of air into the ward along the ceiling so as to prevent drafts. The transoms have operators, so they may be easily opened and closed. In transoms over the door between ward and corridor is a clock, and also the signal lamps for nurses and interns, which are visible from ward and corridor. On the east side of the corridor of the "head house" are two rooms, with capacity of 3 beds each, to be used as isolation rooms. Next is the serving pantry, connected by electric dumb waiters with basement. The food is brought from general kitchen on large heated trucks, and sent by way of dumb waiter to the serving pantries, where it is kept hot and distributed to the patients. Next

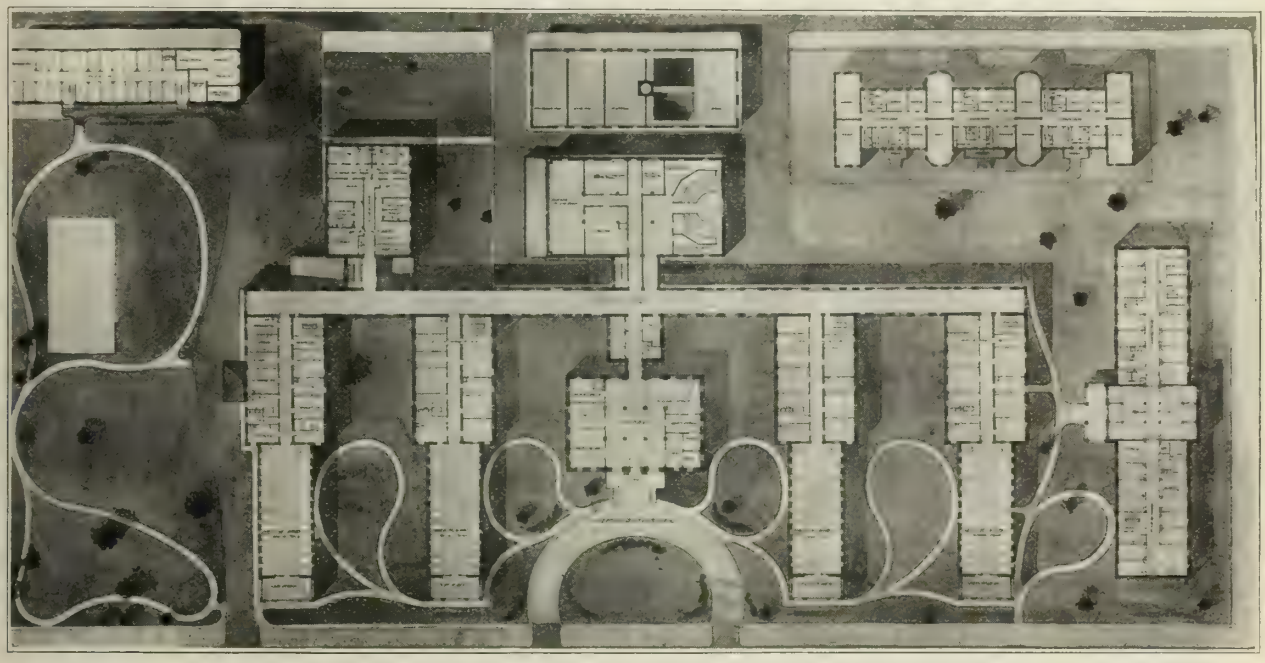

Fig. 2. Louisville City Hospital—Plan of the group.

is the dining room for such patients as are able to leave their beds. Adjoining is the laboratory where ward interns make examinations. On the west side of the corridor, next to ward, is the nurses' duty room, containing sterilizers, cleaning sinks, closets for bed pans, a warming oven for towels, clothing, and blankets, and an incinerator for ward garbage. The room has a window looking into the ward, so that the nurse at all times has supervision of the ward. Next come water closets for patients, and bath rooms, with both shower and tub, so placed that the nurse may get all around the patient. Next is a linen room, and adjoining is a clothing room for patients, with lockers. Next is the apparatus room, where all movable apparatus for use in wards is kept. In this room is a chute for soiled linen to be dropped in basement. The foregoing describes a typical ward.

MATERNITY WARDS.

The maternity wards are subdivided—a large room for waiting women, two small rooms for babies, room for post-delivery cases, and a room for convalescents.

OUT-PATIENT DEPARTMENT.

The out-patient department consists of a large waiting room, with separate apartments for white and colored patients. There are seven rooms for individual examinations and treatment. These rooms have special equipment for medical, surgical, eye, and ear cases. Next is a well-arranged pharmacy.

RECEIVING DEPARTMENT.

The receiving department has two receiving rooms, where the ambulance delivers patients under cover, one room for white and the other for colored patients. Opening off each entrance room is a small ward, with bath and clean-up room, where patients may be placed temporarily at night.

In the basement of Ward No. 2 are the housekeeper's office, toilet and locker rooms for men and women of both colors, a carpenter's shop, etc. In the basement of Ward No. 3 are the general store rooms.

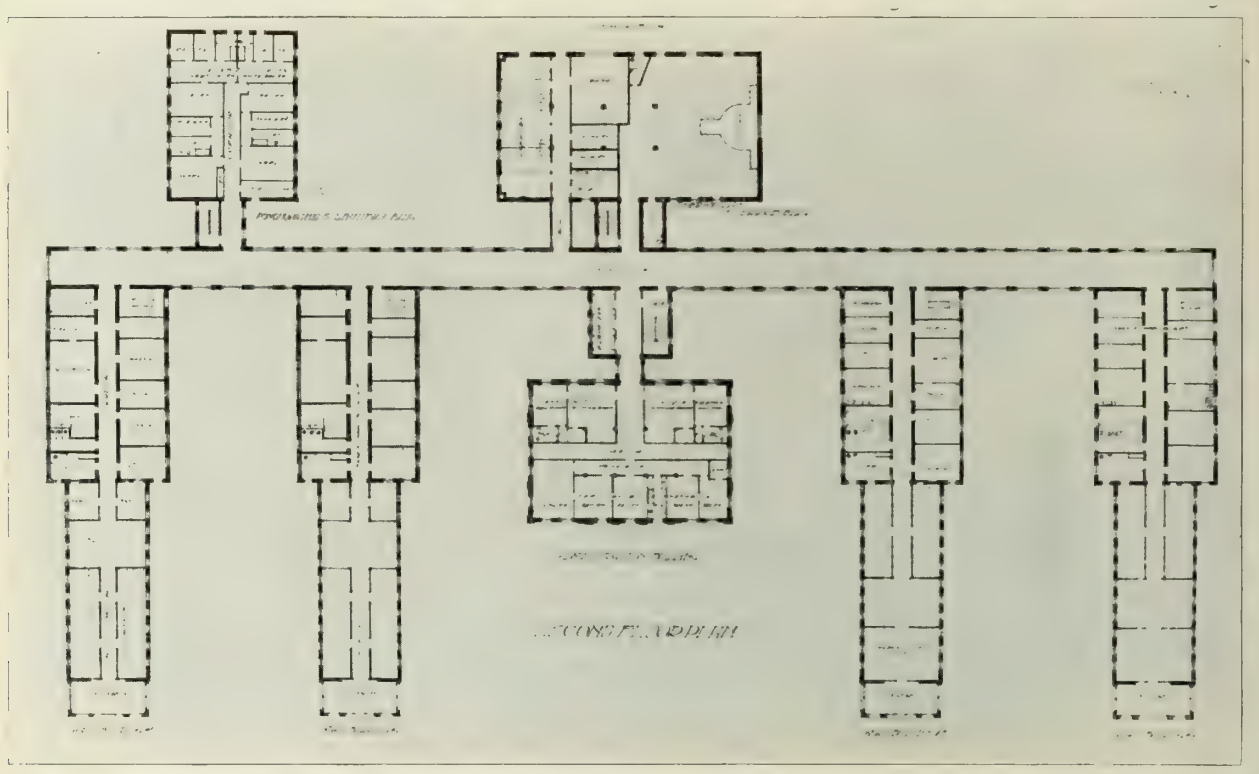

Fig. 3. Louisville City Hospital—Typical floor plan.

In Ward No. 4 are the pathological department, morgue, autopsy rooms, chapel, coroner's room, waiting room for witnesses, and pathological laboratory.

PSYCHOPATHIC BUILDING.

This building is to the north of the main corridor, and is thoroughly equipped for the examination and treatment of all suspected cases of mental diseases and insanity. The x-ray, photographic, hydrotherapeutic, and electric treatment rooms are on the third floor of the building.

ISOLATION BUILDING.

This building, which stands by itself, is designed to care for the contagious diseases. Here different contagious diseases may be treated with-

out danger of cross infection, there being no inside communication between different sections.

PATHOLOGICAL DEPARTMENT.

The morgue is equipped with a refrigerator containing different drawers, and the autopsy room has a modern ventilated operating table. The pathological laboratory is provided with lighted tables for eighteen students. There are also refrigerators, centrifuge separators, sterilizers, incubators, and numerous other fixtures for teaching and experimental work.

There is so much connected with our big general hospital that for lack of space I will hold some of the features in reserve for another article, in which I will attempt to describe the nurses' home, employees' home, the lighting, plumbing, heating, sterilizing, and signal system, and the laundry, incinerators, elevators, and power plant.

A TESTIMONIAL.

A beautiful bronze tablet adorns the wall of the lobby of the hospital, upon which are inscribed the names of the commissioners who gave so much time and thought to its building. They have the gratitude of the entire community.

ADVANTAGES AND DISADVANTAGES OF A SMALL HOME HOSPITAL.[1]

Balance Seems to Favor the Hospital Near the Patient's Home—Greater Individualism Permitted—Better Air, Greater Quiet, Purer and Fresher Food—Home Hospital Develops Better Medical Men.

By JAMES FREDERIC CLARKE, M. D., Fairfield, Iowa,
STAFF OF JEFFERSON COUNTY HOSPITAL.

ALL hospitals are so useful and beneficent, that a discussion of the comparative advantages of large and small institutions may seem unprofitable. However, the new "Iowa idea," by which the people of rural communities are building hospitals for themselves, is spreading so rapidly over the United States that it is arousing much comment and attention. Physicians in the country are asking for these small rural hospitals. Many members of the medical profession in the cities are frowning on the building of such institutions. The writer believes that their universal establishment is coming, and, if this belief is justified, it may be well to consider the changes this will entail in medical practice.

The reason for the existence of any hospital is its ability to help the patient. Incidentally it lessens the physician's labor and makes positions or a school for nurses, but these are comparatively unimportant considerations. Doctors and nurses are merely part of a hospital's equipment—of a quality good or bad, as the case may be. The one pertinent question to ask should be, Is it better for Farmer A, when ill, to be cared for in a small rural hospital near home, or in a large city hospital? Where will the ill or injured man, woman or child be insured the speediest and most perfect recovery with the least exhaustion or anxiety of relatives and friends? Because of the universal sympathy and kindheartedness of the rural people in America, the continued illness of a member of one family has, in the past, meant the exhaustion of the other members of the family and many neighbors by night and day nursing and anxiety. Many times these untrained nurses have acquired typhoid or other infections, and added yet more to the burden of the community.

The writer, reared in a doctor's family in the country, for a time intern in a large hospital, twice a surgical patient in large city hospitals, and now for a year and a half in close touch with a small rural hospital, has observed all ways of caring for the sick. In all the various hospitals he has had such pleasant experiences that the shortcomings of any one seem rather insignificant as compared with its excellences. There are, however, differences between the large city and the small rural hospital, with, it seems, a marked advantage in favor of the latter.

The ideal conditions for the care of the sick would be an addition to the home, equipped with every hospital appliance, two or three trained nurses, and the most skilled medical attendants. Any hospital is an attempt to supply for all the people these impossible and expensive conditions.

For obstetrics the small home hospital must of necessity serve its rural community. Women of the country cannot, without prohibitive expense and inconvenience, go to the large hospital for confinement. On the other hand, it has been found entirely practicable, in Iowa, to take the country women within a radius of twelve miles to the county hospital at the time of labor. In a few years the average distance between Iowa rural hospitals will not be greater than twice twelve miles. In these hospitals the best service is now given the mother and child at just one-half the

[1]Dr. Clarke was asked to write on this subject because the initial success of Iowa's first county hospital was due in large measure to his excellent judgment and wise guidance. The illustrations are those of the hospital that Dr. Clarke has in mind.—Editor.

cost of a trained nurse at home. The advantages of a well-equipped hospital maternity ward over the best country home are inestimable. These advantages, leading to the greater safety of both mother and child, are so rapidly becoming known that before many years the custom of hospital confinement must become quite universal in rural communities. How this will lessen the pangs of

Fig. 1. Jefferson County Hospital—Front view.

the doctor's conscience, who, after his best efforts to repair a torn perineum in a low country bed, knows that his work is not well done!

For a considerable proportion of medical patients and emergency surgical affections only the nearby rural hospital or the home can be considered. Patients with typhoid fever, pneumonia, rheumatism, and like conditions can, with a good ambulance, be placed in a home hospital when transportation to a distant city could not be considered. The treatment in the hospital halves the expense and relieves the family of exhaustion and danger of infection. Aside from the question of transportation, the advantages of the home hospital are the nearness to friends and acquaintances, the presence of his own physician, and a good nurse, and the other factors to be considered later in detail. Every country home and every rural hospital room has a telephone. The home hospital thus becomes but a detached part of the man's own house. To have a very ill relative a long distance from home is a cause of great anxiety to a whole family. The journey of relatives back and forth is at a large expense and loss of time.

There remains to be considered the chronic internal affections and the nonemergency surgical patients who need hospital care. The problem presented daily to the rural family is, Shall these sufferers be taken to the home hospital or to the large city hospital?

The small hospital has usually the advantage of location and environment. In the country land is comparatively inexpensive, and the hospital grounds are in consequence ample. Sunlight, pure air, and a cheerful view of fields and woods, a freedom from noise and smoke and other extraneous annoyances of a closely built city—these all appertain to the rural hospital. These all are aids in restoring the health.

The kitchen supplies of a rural hospital should be superior to those obtained in cities. In the country, where milk, eggs, vegetables, and fruits abound, it must be easier to supply the few patients with an attractive dietary than it is to prepare the many food trays of a large city institution. Of all the memories in the average hospital patient's mind, the diet lingers longest. The food furnished is usually the criterion by which the hospital is judged. Necessarily the three meals are the chief events of long, monotonous days.

A cured tubercular friend assures the writer that his taste can easily detect an egg that is more than twenty-four hours old. He firmly believes from personal experience that the chicken farm must be near the hospital to make a raw egg diet tolerable. The rural hospital has the supply farm at its door.

Chief among the advantages of the small home hospital is the fact that each patient is an individual human being—not number 500, but number 1; each is an acquaintance of his doctor and his nurse; each, in the new "Iowa idea," is a proprietor of the institution. Each patient is watched (as is his doctor and nurse) by the whole com-

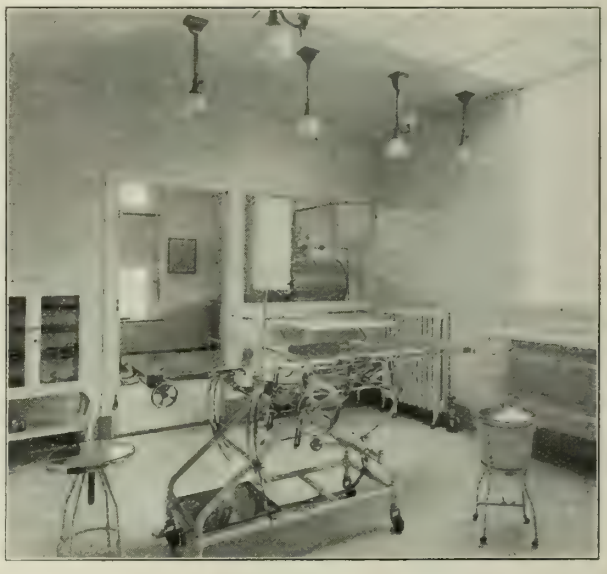

Fig. 2. Jefferson County Hospital—Operating room.

munity. This compels an individualized and humanized service not possible in large institutions. With failing health, egotism usually becomes more pronounced. A sick man's horizon is narrowed and he becomes self-centered. To an unreasonable degree he demands personal consideration. In the small hospital each patient is more apt to feel that his welfare is of first im-

portance, and he is for that reason better satisfied, as are his relatives. In the home, with family nursing, the personal sympathy and indulgence is overdone and often delays recovery, but there is no doubt that, with the best intentions, nurses and doctors in a large hospital, becoming habituated to routine, know patients by number, and

Fig. 3. Jefferson County Hospital—Maternity operating room.

are much interested only in rare pathological conditions.

Not long ago a country doctor took a patient to a large city hospital, where one of the most distinguished American surgeons did three abdominal operations with one anesthesia. The patient was anesthetized by an intern. The anesthetic was prolonged before the operation was begun because preceding work was unexpectedly extended. After the closure of the wound the much shocked patient was put to bed in a room five stories below and quite distant from the operating amphitheater. An hour later he was there seen, blue, almost pulseless, and without a nurse or attendant in sight. On an appeal to the superintendent a nurse was finally found, but she exhibited no anxiety and assured the caller that all would be well. The patient was number 500 in a busy hospital which has a deservedly excellent reputation. A few days later the patient died. He had the best possible care under the crowded conditions. However, the thought cannot be dismissed that with a shorter anesthesia and more rigid personal care the balance might have been turned toward life.

Possibly it had been better to mention, before the food supply of a hospital, the essential equipment—a nursing and medical staff. Either at home or in the large or small hospital, nurses of equal ability can be obtained. To employ a good nurse in the home and board both her and the patient is a considerable expense. In a large proportion of cases hospital nursing is equally, or even more, efficient because the nurse has more equipment with which to work and several nurses relieve each other. Nursing is more satisfactory in the small than in the large hospital because there are fewer patients per nurse, and in the small institution the nurse knows the patients and their families, and is under the direct observation of and, in a sense, in contact with relatives and friends.

The question of the efficiency of the medical staff is of first importance in selecting a hospital. Where is Farmer A, with failing strength and repeated attacks of epigastric pain, to receive the best diagnosis and medical or surgical treatment? the best chance of a perfect recovery? In the large city hospital he will have a famous skilled surgeon for his operation, with interns of one or two years' experience for attendants. In the small home hospital he will have a general practitioner for both operator and attendant. The writer knows of no adequate available data by which comparative end results under these varied conditions can be determined, and without such data a personal opinion is of little value.

The specialist who looks continuously through one kind of a speculum has usually a circumscribed view. The general practitioner in the more remote community, familiar with his patient's life and inheritance, has a broader basis for his opinion. All the advantage is with neither.

The chief, perhaps the only serious, argument advanced against the building of rural hospitals is the fear that local physicians will in them attempt surgery beyond their ability. There is no

Fig. 4. Jefferson County Hospital—X-ray room.

doubt that many rural practitioners do, with inadequate experience, attempt major surgical procedures. But is this less apt to be a practice in the rural hospitals than it now is in the patients' homes? The inspection and criticism of each doctor's work in the rural hospital by his colleagues compels extreme care and a perfected

technic. The writer has known of a country doctor of small experience doing a gastrectomy in a home, with death soon following the operation. The surgical profession, the state, the trustees of hospitals, public sentiment, or some restraining body will possibly before long establish regulations that will make such things impossible. When the patient in hand has appendicitis, strangulated hernia, extrauterine pregnancy, depressed fracture of the skull, or some such grave condition, the general practitioner must be able to operate and at once, and must have a hospital near at hand. Many lives are saved in the country by the prompt action of moderately skilled surgeons in such emergencies.

Physicians of both large and small hospitals have ample tools with which to work. The small hospital, as well as the large, has its clinical laboratory and x-ray machine. In the small hospital now the doctor often makes his own clinical investigation, or it is made for him directly under his own eye. The bacillus found, the tube cast seen, the blood-cells counted are blended into the picture of the patient's whole life, and possibly the judgment formed is sounder, deeper, than it can be when a laboratory assistant sends to the surgeon a printed report of a stranger's condition. But even if this be true, its advantage must be surrendered, for the rural doctor is too busy for laboratory work. Before long the country physicians will unite in employing a clinical laboratory assistant to live in the hospital and do work for all. Even then, however, the doctor will look through the microscope and keep in close touch with the routine of this work.

One splendid work the rural hospitals are now doing is that all physicians seeing the laboratory work of a few are becoming educated to the necessity of blood counts and other clinical procedures. The hospitals are to increase the efficiency of the doctors in every rural community. The present haste, carelessness, and lack of thoroughness in study must give way to accurate scientific work.

It is altogether probable that the increasingly high standards of medical education, required hospital internship, and dispensary experience and final practice in more or less remote rural communities with all hospital facilities will develop general practitioners able to serve the people well. If the small hospital then maintains its advantages in other respects, it will undoubtedly surpass the home or the large institution as a place in which to care for the sick.

Another improvement in Philadelphia institutions will be the enlargement of the isolation ward at St. Joseph's Hospital.

EFFICIENCY IN AN ORIENTAL HOSPITAL

Good Laboratory Work and Well-Arranged Clinics Are Features of Hospital in Famous Dalny.

Major P. M. Ashburn, United States Army, is on his way home from the Philippines by way of the Orient. He has written some of his impressions of various lands through which he is passing for the *Military Surgeon*, from which this brief account is taken:

"Of medical interest the principal feature in Dairen (the famous Dalny of Russo-Japan war fame) is the General Hospital. I visited this hospital alone, and, while most courteously received and shown over the entire institution, I had difficulty in learing all that I wished to know because of the language barrier. I spoke no Japanese and no German, while the Japanese doctors spoke very little English.

"The hospital, which is of Russian construction, is a poorly lighted and poorly ventilated building. Built as the South Manchuria Railway Hospital, it now plays the part of the City General Hospital. It has, I think, about 300 beds. Poorly arranged and poorly equipped, when viewed from an American standpoint, it likewise does not suit the Japanese, who have planned and begun the construction of a large and modern hospital which they expect to replace this one in 1915. Nevertheless, the present hospital is equipped with the necessities for good work, has an active staff of twenty medical officers, and, so far as I could judge, does excellent work in medicine, surgery, the various specialties, pathology, bacteriology, serology, etc. More careful work is done there than at any other place I have seen since leaving Manila. It is only just to some other institutions, though, to say that they have not the personnel sufficient to make thorough medical work a physical possibility. At Dairen the personnel is abundant as well as capable.

"Of infectious diseases, I learned that dysentery is common there, typhoid less so, typhus uncommon and relapsing fever rare and found only in the Chinese. Diagnosis, treatment, and records all seem good. The surgical side of the hospital would indicate by its general appearance and by its rather crude operating room equipment that surgical technic is less highly developed than in the average American hospital. Well-equipped clinics for eye, ear, nose, and throat, gynecological, venereal, obstetrical, and general medical and surgical work indicated that each class of work was being looked after. A good and apparently much-used installation for electrophysico and hydrotherapeutics was rather a surprise in a place that seems so 'out of the way.' The bacteriologic, serologic, and pathologic laboratories were equipped and being used in a manner to indicate that the proportionate weight attched to the work of the laboratories is greater than in the average American hospital. A large and well-stocked animal house suggested that a good deal of research work is done at the hospital, the experimental animals noted being monkeys, rats, mice, chickens, pigeons, donkeys, sheep, dogs, cats, and rabbits.

"At Port Arthur there is nothing of present medical interest, but the medical officer of the army cannot fail to be impressed with the stupendous amount of work that is thrown on his department by such encounters as were those about Port Arthur, and he wonders how the work was accomplished; but wonders in vain—or at least I did—as my guide could not tell me. Being a Japanese and ordinarily human, he had no room in his thoughts for such inglorious details; and truly it is not remarkable that this is so, for the most casual observer cannot fail to see that the display of valor was truly glorious for both of the nations involved, and it deserves all the admiration and exaltation given it. The loss of life was terrific, and Japanese blood was spilled in a manner considered by many as reckless and wasteful; yet, if anything could compensate for wastefulness of that sort, it would probably be the pride of race and the patriotism called forth by the exhibition of bravery, enthusiasm, and scorn of death that made such waste possible."

Samuel Grabfelder, a Philadelphian and president of the National Jewish Hospital for Consumptives, Denver, Colo., has given $500,000 to that institution.

PARTICIPANTS IN PLANS FOR THE HOSPITAL.[1]

Architects Are Entitled to Advice of Competent Expert—Evaluation of Important Features Must Be Made—Trustees and Superintendent Not the Best Counsel.

By T. J. VAN DER BENT, of McKim, Mead & White, New York.

PAPER II.

OCCASIONAL visits to old institutions, which are in every respect behind the times in equipment and buildings, but which, nevertheless, have been able to retain their staff of employees for a great many years, will point out one of the most troublesome causes of dissatisfaction in newer and more up-to-date institutions.

IV.

In these old buildings, if a remark is heard from any employee, it is one of praise for the institution, as a whole or in part. No complaints are made of poor equipment, of bad buildings, and the like. Everything is excellent, serviceable, does the work, or "will do." Each employee is proud of his institution and will not say a word against it. The result is that to the layman this antiquated institution retains a reputation for thoroughness, good management, and proper efficiency, quite often entirely undeserved. I have visited hospitals with good reputations, but which were poorly managed, and in some instances in absolutely filthy condition.

The fortunate condition of harmony and general satisfaction changes immediately on the appointment of a new employee, who has charge of a major or even a minor department. A new superintendent, a new pathologist, kitchen chef, laundry manager, or chief of nurses—each one will upset the peaceful equilibrium of former times, and with the first attack the reputation of years is lost.

This change of personnel is of as great importance to the new institutions as it is to old ones. Although before the arrival of a new kitchen chef the up-to-date equipped kitchen proved entirely satisfactory, the new chef may be one of those who will insist on a complete change. He will condemn everything existing, and does not rest until he has obtained his wishes. With a new manager of the laundry the experience will be the same. The laundry layout, the number and type of machines, the arrangement of floors—all will be criticised, condemned, and declared unworkable, although they may be the most perfect in the country. If the kitchen chef and laundryman had been employees during the building operations, and their advice had been asked, they would consider the kitchen their work and the laundry their idea, praise their respective departments to the sky, and rather work twice as hard as ever before in order to obtain good results than complain about the condition of their establishment.

With this consideration in view, each complaint about features of the hospital buildings and equipment should be carefully investigated. It will be found that much is condemned on account of lack of knowledge, unfamiliarity with the most modern and the best type of installations, and a complaint from certain employees about the layout and equipment of their department will, on a rigid investigation, condemn the complainant as unfit for his work. These unjust complaints undermine the reputation of the institution. Outsiders very quickly hear them, with consequent reflection on the efficiency of the buildings and the equipment. Those who make complaints for selfish purposes should be considered as criminals and be severely punished. They are false to their employer, and are working against their own interests as well as those of the institution. The feeling of loyalty and pride, the two essential requisites of any employee, are lacking in them.

In view of the fact, however, that many complaints are made which contain degrees of merit, those who are empowered to receive and adjust such complaints should see to it that all criticisms receive proper attention, are investigated, and acted on without delay.

It will thus be seen that every hospital should have a man with sufficient knowledge and experience and equitably judge all complaints of whatever nature, and he should also have the power to remedy any defects if they are found to exist. This man may be the superintendent, if he is not too busy with other work, or it may be a special adviser. Directors of the institution are apt to pay too much attention to complaints from all quarters. For instance, when the power plant, lighting plant, ventilating and heating equipment, or the elevators are not giving satisfaction, and are complained of by the engineer, the directors are not apt to consider the possibility that this particular engineer may be ignorant — lacks knowledge, practice, and experience. No, it is much easier to condemn the entire plant.

As another example, their institution may pos-

[1]The first of these papers appeared in the February number.

sess a perfectly planned and equipped laboratory, but when the new pathologist finds it different than the one with which he was formerly familiar, and which was undoubtedly patterned after one which he had seen somewhere on his travels, this new laboratory is declared faulty, and must be changed to suit the whim or fancy of the new incumbent.

It is unnecessary to state that if the directors, after a rigid examination by a competent authority, found the complainant guilty of ignorance and subsequently discharged him, there would be a diminution in the number of complaints, and more general satisfaction.

A new superintendent of nurses, who has been accustomed to wood floors, will consider wood floors the best. On the other hand, one who has dealt only with tile floors will call only tile floors satisfactory, and so on with every department.

It is, of course, advisable, absolutely essential, and the only good policy in the planning of a new hospital, that advice and opinions be asked of all the heads of departments and of many of their assistants. The heads of departments like to have some say in the planning of the new institution, and, if not, will in most instances criticise or condemn everything that they find. Just how far the routine of an existing institution does influence the judgment of the employees is for the special adviser to know and to judge. If the architect has to rely on the judgment of employees who have seen many years of service and are accustomed to certain methods and certain equipment, he will obtain from them wrong ideas and be liable to place antiquated installations and features in the new hospital. Nor can the architect obtain the necessary information from the directors, from whom it cannot be required or expected that they have knowledge of these details. This would again prove the need of a special man to instruct the architect fully about such requirements.

V.

The various causes of failure and little satisfaction in hospital building, as mentioned in the beginning of this paper, are, to those who have scientifically struggled with the problem, so apparent that no further explanation is needed. The incomprehensible stubbornness in most organizations, however, in holding on to their own methods and their animosity to changes makes it necessary to explain in detail some of these causes.

After the lengthy explanation given above, it seems of little need to go into much explanation of the fifth cause mentioned, inasmuch as the first four, for the greater part, explain the fifth.

The wide difference between the requirements, the different locations and situations, the different climatic conditions, the difference in the communities themselves, and the daily life of these communities, hardly make it possible for two hospitals to be exactly the same.

Each hospital requires a careful study of the exact needs, a study of the financial condition and the possibility of maintenance based on the fixed requirements, and after this a decision of how much of the different requirements can be fulfilled in order to come within the amount available for construction. This necessitates a careful revision of the requirements if a shortage in funds is shown, and perhaps the elimination of some in order to begin the new hospital construction on a proper basis. A preliminary sketch plan must be made in order to obtain the estimates of cost. This plan cannot be made until a complete program of requirements has been decided on and issued to the architect. Without such a detailed program the omission of essential features in the estimates is the usual result.

For a complete understanding in estimating the cost, the architect must also have complete information as to all of the requirements of each department, and the necessary floor area which each department may be allowed. They must, further, be acquainted with the wishes of the directors, or governors, as to what policies they will follow in housing of the help; for instance, single or plural occupation of rooms in the dormitories; their opinions as to certain types of heating and ventilating systems, their preferences as to grades and qualities of building materials, as to the necessity for an electric light power plant, the extent of the out-patient department service, the ambulance service, the maximum number of general hospital patients, the same as to the private patients, the probable number of surgical operations per day, and numerous other items of general information.

In reaching their decisions as to several of these items, the advice of the architects and consulting engineers in the respective branches should be asked, and, if possible, followed. If all of this information is carefully studied, there is no possibility of a chaotic condition at the very beginning of the planning.

In case of limited funds, the directors receive with the first preliminary sketches all necessary information and are thus able to make reductions, making these reductions in the proper branches. No time is wasted in making complete plans and extensive studies based on wrong and incomplete information. No disappointment will occur in the nonfulfillment of too great expectations. The

final result will be a structure planned and designed as it should be through the cooperation of all of the factors necessary for the understanding of the wants, resources, and policies of the hospital.

VI.

For reasons given before, the only solution which will produce satisfactory results is the early appointment of a capable professional adviser, who will relieve the governors, directors, or trustees from the responsibility of deciding all questions outside of their department. Several years ago I would have strongly objected to complicating matters by obtaining advice from outsiders, but careful investigation has shown the absolute necessity of having one man—a capable, broad-minded man, with an extensive general knowledge of medical and surgical practice, as well as a thorough knowledge of details of administration—to give all important decisions pertaining to these portions of the hospital problem. Such a man is rarely to be found among the hospital staff, and, even if found, very seldom or never has enough free time to give sufficient attention to the new problem.

It should be borne in mind, however, that this adviser cannot, and should not, have the decision of any questions in connection with architecture or engineering, nor should he be required to make sketch plans. A preliminary sketch plan made by him leads to prejudice when he is judging any departure from his original ideas. If a competent architect receives complete information, he should always be able to find a solution where architecture and engineering go hand in hand with the best medical or administrative viewpoints. If it is wrong for an architect to consider the medical or administrative demands opposed to proper architectural solutions, it is equally wrong to consider architecture and engineering enemies of good hospital construction. Most architects, however, adhere to the first and most doctors to the second opinion. I cannot lay enough stress on the fact that it will handicap the architect if the adviser attempts to do part of the architect's work, inasmuch as it will lead to friction and misunderstanding, except in rare instances where the adviser is an extremely liberal and broad-minded man, and one who does not consider that his first thought of the plan is, per se, the only good solution. The present era requires a distinctly new profession—namely, that of general hospital adviser. A general hospital superintendent seldom can devote the time required for the demands of this position of adviser, and, moreover, is hardly ever sufficiently independent to strongly oppose matters proposed by his principals, the trustees or directors, which are not in strict accordance with his own conception. A man entirely free from such conflicting relations is to be preferred.

VII.

It will be evident that the previous chapters have, in part, given explanation of each other, and that the reasoning therein leads to the same conclusions, even though starting from different points. From what has been said before, little need be added as explanation of the last item mentioned—namely, that the judging of competitive plans cannot be done without proper data of comparison.

No plans can be judged fairly unless a very complete program of the requirements has been given to the architects. With hospitals, more than any other buildings, the best solution of the problem is the solution which has adhered strictly to the program, provided, of course, that this program has been made up by a competent authority, and carefully describes the wants, the general grouping, the allotment of space, and all such matters mentioned before as requisite instructions to the architect.

An incomplete program, or one written by a man incapable of the task, will result in doubt about requirements in the minds of different competing architects. Erroneously, importance will be given to unimportant matters. The principal questions will be ignored, or considered of small moment. The best architect may have considered the most vital matter as of small importance, and thus, through insufficient information, will present a plan which will be condemned by the judges, whereas, had this architect been properly informed through a complete and detailed program, probably his solution would have been the best of all. The program should state the grade of importance for each requirement, and not leave the judgment on medical or administrative points to the competing architects. For a good many reasons, not necessary to enumerate here, competitions cannot be recommended, and better satisfaction will be obtained if the architect is selected without competition, his selection to be made at the same time with the appointment of the medical adviser, and these two men should work together on the problem from the very beginning, as it is essential that their views should be considered in the selection of the hospital site. If a competition is held, however, it should be properly arranged and along definite lines.

I wish to add a few words in reference to the terms "hospital principles" and "sanitary con-

struction." If we may assume that the capacity of hospitals in the United States is entirely inadequate, and that the cause of this condition is, in the main, lack of funds, it will be evident that one question stands out as of the greatest importance, and a decision will have to be made at the very beginning of new hospital planning—namely, "What must be considered of greater importance: strict economy in construction, or the conscientious carrying out in all hospital details the so-called sanitary and hygienic principles without regard to expense?"

If there is an unlimited amount of money available, the construction of an ideal hospital becomes a theoretical possibility. With a great amount of study, abandonment of nearly all existing structural details to which factories have adhered for many years, and the overthrow of conventional forms and shapes in construction and design, the possibility of achieving strict hygienic construction does, theoretically, exist. Anyone familiar with the difficulties of changing trade or factory shapes, of machinery made for many years to turn out regularly returning details, will know that an unlimited amount of money is required to have the manufacturers make these changes. In several instances the fight against this adhering to antiquated and unwarranted forms and shapes may be called hopeless. As an illustration, I may cite the campaign for the metric system in England and the United States. For nearly fifty years this fight against the most retarding influence in engineering practice has been in vain on account of the refusal of a few English manufacturers to change their dies and old-fashioned methods. To expect, therefore, that all manufacturers will change their business methods to such an extent as this hygienic construction would demand would be too optimistic. Not only would the manufacturer have to change his machinery and dies for new forms and details, but also keep his old machinery for the supply of ordinary, or nonhospital, or—permit me to call it—nonhygienic building trade. Under the head of hygienic building we may count all institutional structures, such as schools, hospitals, tenements, dormitories, and even factories. If we further consider that these so-called hygienic details require in most instances more expensive material and more expensive construction, it becomes quite apparent that there are some very important issues, namely:

1. What is more important—to construct a greater number of hospitals in an economical manner, or a lesser number on strict sanitary principles?

2. To what extreme may the architect go in carrying out details of construction strictly on hygienic principles?

3. What is the actual definition of hygienic principles in hospital construction?

To illustrate the difficulties existing for the architect, let us consider one small structural detail only. Dust ledges are called unsanitary. Places where dust can lodge must be avoided. In this connection, must it be understood that no dust ledges will be tolerated, or does it mean that, as far as practicable and as far as finances allow, dust ledges must be avoided? My personal view has been that strict avoidance of dust pockets and dust ledges is only a theoretical, and not a practical, possibility. It is a very vague term, a very indefinite requirement, resulting in many flagrant violations, which violations have been carried through in many instances without opposition.

Considerable objection is raised to projecting bases or projecting band-courses, but one never hears objections to radiators, registers in walls, and seldom against window and door trims. Window sills and numerous details of ordinary windows, with very objectionable and uncleanable dust ledges, are allowed. All sorts of equipment is placed in rooms which is impossible to keep free from dust and impossible to clean. Realizing this, it has been my personal practice to construct the meaning of "avoid all dust ledges" as "eliminate wherever practicable and possible, and, where they cannot be avoided, make cleaning possible or less difficult." The sanitary base has made it simple and possible to clean floors. A right angle between floor and wall makes perfect cleaning impossible. A flush door, without panels, has done away with numerous dust-catching moldings, etc. We proceed slowly, every day we make a step forward, eliminating all objectionable dust ledges and dust pockets. To insist, however, on complete elimination at once, and only in one direction—namely, in architectural features—is unreasonable. Practice and cost make it impossible. As yet the omission of door and window trims is very costly, but it is nevertheless possible. Some day we will be able to obtain a window without any dust ledges, and at a reasonable cost.

For a later paper I will leave two other important questions in reference to hospital construction, and to which no definite answer has as yet been given, namely:

1. The necessity of mechanical ventilation in hospitals, and the extent to which it should be used.

2. The efficiency or inefficiency of hospital help and its influence on the successful operation of mechanical devices.

ORGANIZATION AND ADMINISTRATION OF THE NURSING DEPARTMENT.[1]

Material for Nurses—Standards—Admission of Pupils—The Training and Discipline—Punishments—Honor Women—The Curriculum—Records—The Teaching Staff—The "Home."

By MISS ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICHIGAN.

PAPER IV.

THE ambition of every good hospital, whether it be large or small, is to graduate high-class, efficiently trained nurses from its training school. Yet, many times, on no one point of vital interest and concern to the success of an institution is less judgment and discrimination shown than in the quality of material admitted to its school of training. Years of painstaking labor are frequently spent in the attempt to develop well-trained, intelligent nurses out of hopelessly impossible material; this, too, in face of the fact that, unlike most student bodies, the matter of admission is not practically compulsory, but is absolutely controlled by those in charge of this branch of the work.

The reasons for this condition, which seems to exist in so many schools, are self-evident. Either the standard of admission is too low, thus permitting the admission of undesirable candidates for training, or the number of desirable applicants too limited to permit of proper selection. Frequently this is the fault of the school itself, which cannot or does not give the proper equivalent in return to its nurses, and is thereby unable to attract a superior type of woman.

ADMISSION OF PROBATIONERS.

The standards of admission and requirements should be as high in the small first-class general hospital as in the large one. While the actual training will necessarily be somewhat different in character in these two institutions, each possesses valuable qualifications and should turn out equally efficient nurses. In the small school the personal equation and almost individual instruction and supervision which is possible to give, together with the greater responsibilities intrusted to the nurses in training, practically offsets the much greater experience afforded them by the large hospital.

In order to attain success in the nursing profession, a probationer requires not only the right kind of a preliminary education, covering at least two years of high-school work, but should also have the infinite advantage of a good home training. The value of such training, with its development of womanly character and qualities, cannot be overestimated in this work.

In admitting nurses to our schools, we require not only the two years of high-school work, but also evidence of this careful home training, together with a definite knowledge of housekeeping duties. With such preparation, we feel fully justified in using our nurses for legitimate nursing purposes, requiring only such work of them as properly belongs to nursing, and do not keep them for weeks at a time cleaning marbles and brasses or preparing vegetables under the time-honored delusion that "it is part of their training."

Our experience is that high standards and strict entrance requirements bring larger and better classes of applicants. Each year has brought us increased applications for entrance and a larger number of high-school students.

We give a three-year course of training, which includes three months of probation, although the entire first six months is considered as a preparatory course.

THE CURRICULUM.

The curriculum of the school is briefly outlined as follows:

Preparatory Class.

Anatomy and physiology	15 hours.
Solutions	7 "
Practical nursing	24 "
Theoretical nursing	24 "
Preparatory materia medica	6 "
Nursing ethics and hygiene	10 "
Principles of cookery and dietetics	20 "
Bacteriology and urinalysis	12 "

Junior Class.

Anatomy and physiology continued	20 hours.
Principles of cookery and dietetics	20 "
Surgical nursing and bandaging	16 "
Obstetrical nursing, practical	6 "

Intermediate Class.

Medical diseases and contagion	7 lectures.
Surgery	10 "
Obstetrics	12 "
Gynecology	4 "
Pediatrics	5 "
Eye, ear, nose, and throat	5 "
Materia medica, regular	12 "

Senior Class.

Massage, hydrotherapy	20 hours.
Advanced nursing lectures, lectures on nursing topics of day and current events	12 "

[1]The fourth paper in a series of eight on the Conduct of a Small Modern Hospital. Next month, "Hospital Housekeeping."

The course of instruction is given according to the following arrangement:

Nursing ethics	Superintendent.
Hygiene	
History of nursing, with lectures on special nursing topics and current events	
Theoretical nursing	Assistant superintendent.
Practical nursing	
Solutions	
Preliminary materia medica	
Practical obstetrical nursing	
Practical ward surgery	
Surgical technic	Surgical supervisor.
Bandaging	
Massage and hydrotherapy	Special hydrotherapy nurse.
Dietetics—chemistry of food	Hackley Manual Training School.
Cookery—preparation of invalid diet	
Anatomy and physiology	Doctor's lectures.
Materia medica—regular and homeopathic	
Medical diseases	
Contagious diseases	
Surgery	
Gynecology	
Obstetrics	
Children's diseases	
Bacteriology	
Urinalysis	
Eye, ear, nose, and throat	

We have a nine-hour day, but the nurses are on actual duty only fifty-six hours per week, each nurse being allowed two hours' time off duty and one hour for meals daily. They also have one half day each week and the full half of each Sunday. A pupil nurse on special is always allowed eight consecutive hours rest daily and a day off for each week on the case. Night nurses have a term of six weeks' duty as juniors, with three days time off when the service is terminated, or eight weeks as seniors, with a four-day relief.

As much of the theoretical and the practical training as is possible is embodied in the first six months' preparatory course, so that, by the time it becomes necessary to put a nurse on night duty, she has a thorough understanding and working knowledge of the ordinary duties required of her.

Nurses are admitted between the ages of 20 and 35. With the exception of maintenance, textbooks, and uniforms, when the probationers are accepted as pupil nurses, there is no compensation during the first year.

During the second year the nurses receive a monthly allowance of $7.50, and during their third year, $15. Personally, I strongly favor an arrangement for a small allowance during the last two years of training, as it provides the pupil with a certain sum of spending money, which is her own and often goes far toward smoothing the path of splendid women who otherwise would have their sufficiently trying work made even harder by financial problems. We find that the absence of any allowance during the entire first year does much to discourage the too mercenary mind.

When a candidate makes application for training, we first send the usual forms of application blank, physician's certificate, etc., to be filled out. If these, together with references, are satisfactory, arrangements are made for a personal interview. As most of our applicants are from this state or its immediate vicinity, it is usually possible to arrange for such a meeting. So much more can be determined as to the desirability of an applicant through one very short interview than through endless letters and references, that it almost seems as if no superintendent could really afford to admit as nurses women whom she had never met; for we all realize how important personal appearance, good bearing, and a refined voice are in this work, and we also realize how very misleading references from interested friends are apt to be.

When a class of probationers enters training, all entrance credentials, application blanks, and references, together with entrance examination papers, are filed, each set in its own large envelope. On the outside of these envelopes are places for the nurse's name, dates of admission, acceptance as pupil nurse, and graduation. These latter are filled as each event occurs. During her entire course of training, any communications from or about the nurse are also filed in this envelope, so that, should any question arise concerning these points, the papers are all together. As each class completes training, these envelopes are placed in a large outside wrapper, marked plainly, and sent to the record room, where all hospital papers are filed, each in its own department.

In accepting a probationer, some of the points which we consider especially are the character of her work, the matter of kindness and attention to patients, her appearance and personality, her health and physique, the interest displayed and improvement shown in the work done during probationary period, her personal attitude toward others, and her disposition under criticism, which is always a great test of the fine woman.

BREAKING IN PROBATIONERS.

Two classes of probationers are admitted yearly —one entering September 1, the other February 1. In the first two weeks after admission they are not allowed to be on the wards for more than one or two hours a day. This is only long enough to permit them to become, through observation, somewhat familiar with hospital conditions and customs. During this time they are not allowed

to wait on patients at all, but are shown how to keep a ward in order, how to care for flowers and patient's belongings, and other minor details.

Their hours in the ward and duties there are gradually increased during the next two months until at the end of their third month they are in the wards from six to seven hours daily, except when having their half day or Sunday off. During this time they are having daily lessons in every kind of practical nursing, and are taken by the assistant superintendent into the wards, where they are taught to put into practice the latest lesson given by being allowed to do the work under her supervision.

During their third month they are in the wards several hours daily, and the head nurse, who, it must be remembered, is a third-year pupil nurse, gives their work personal supervision as directed by the assistant superintendent.

At the end of their third month an examination is held on all subjects taught up to this time. If this is passed satisfactorily, and if her practical work and personality are also considered satisfactory, the probationer is accepted as a pupil nurse.

The superintendent always meets a new class of probationers personally, and gives them an informal talk of welcome and encouragement. This is followed by a weekly class in ethics, which can be made to cover many important and necessary do's and don'ts. The superintendent also personally accepts the probationers as pupil nurses, seeing them first together as a class and later individually, at which time it is generally possible to give each one a few words of advice and help along the particular line apparently most needed.

NURSING RECORDS.

Apart from class and examination papers, which are kept separately, three general record books are used for the training school. The first is the daily time book, in which the hours off and on duty for each day are entered, with comments as to extra time off, time lost, sickness, etc., noted in detail. We also have a daily register, which is a record of the service to which each nurse is assigned. This is kept in a large record book, marked up daily, each double page covering the entire record for one month.

In our "nurses' history record" we have two pages devoted to each nurse, the pupil's name being entered in regular sequence according to seniority. On one side is the name and address of the pupil nurse, the name and address of her nearest relation, dates of entrance, acceptance and graduation; also of vacations granted and other necessary details. On the other side of the page is the service record, transferred at the end of each month from the daily register sheet. All night duty service is entered in red ink, thus making it easy to pick out.

In addition to these records, two separate sheets showing the totals of work in every department for each nurse are kept on the superintendent's desk. These totals are made out and totaled at the end of each month, and, in making any change of service, it can be seen at a glance where the nurse should next be sent. On this list is also kept the number of obstetrical cases each nurse has had, the total amount of special, the number of day and night duty, and other details of service. Nothing could be more simple and convenient or of more assistance in securing fair service for the nurses than lists ready at all times for instant information and comparison. Except in cases of emergencies, all changes of service are made by the superintendent.

THE NURSING AND TEACHING STAFF.

Our official staff consists of the superintendent of the hospital and training school, the surgical supervisor, and night superintendent, all registered nurses; also a graduate dietitian. The school averages about twenty-two pupil nurses, and we have also a graduate nurse in our hydrotherapy department and a visiting nurse for social service work. The larger part of the teaching and the actual nursing supervision are in the hands of the assistant superintendent. By having this part of the work at all times in charge of one capable and responsible woman, who gives each nurse personal supervision, splendid results are secured in the training of nurses. In the operating room the instruction in surgical technic is given, of course, by the surgical supervisor, and while on night duty the nurses are entirely responsible to the night superintendent, receiving all necessary instructions from her.

We have a special arrangement with the Hackley Manual Training School, of this city, for the teaching of dietetics and cookery to our nurses in their beautifully equipped domestic science department. This is a courtesy extended by the Board of Education and one greatly appreciated by the hospital authorities. Twenty lessons each in theory and practice are given here, in addition to which each nurse spends at least six weeks in our special diet kitchen, working under the direct supervision of our dietitian.

Our staff of doctors gives to the nurses a most thorough and valuable lecture course, in every case the service being entirely free from charge. We also have the advantage of having all anatomy and physiology taught by one of our physicians, who was for many years instructor in these subjects in one of the large state universities. Too much cannot be said of the kindness and courtesy

of the staff in regard to our lecture course, and in the pains taken to conform with any suggestions made them which might add to the value of the lectures from a nursing standpoint.

RULES FOR NURSES.

In common with all schools, we have various sets of rules—one set for the nurses' home, which is read to the probationers during their first week of training. Those rules pertaining to the hospital are read and explained carefully later as the nurse gradually assumes ward duties. It is our aim to make the smallest possible number of rules, and to live strictly up to those which we find it necessary to make. So far as possible, we try to have our school self-governing. One of the first things told a class of probationers is that every nurse in the school is on her honor; that if it is found that a nurse cannot or will not voluntarily act in a dignified, honorable manner, she will be unable to remain in the school, as there is neither any intention nor any desire on the part of those in authority to do detective duty. We expect every nurse who enters the school to be a woman of honor, and always treat her as such while she remains with us.

There is, however, a special set of rules which we have found it necessary to adopt for the help and guidance of nurses in the arrangement of their work. As our head nurses are pupils in their third year of training, we found that many times they did not fully realize their responsibilities, and therefore the following rules were outlined for their guidance:

Duties of the Head Nurse.

The head nurse is to be on duty promptly at 7:00 a. m. and immediately to assign morning work to senior and junior nurses.

To take report from night nurse and see that charting room and lavatory are in order, and fresh towels ready for doctor's use, nurses' table in order, etc.

At 7:15 to take charge of diet kitchen and at all times to *personally supervise and assist* in serving trays, making sure that all food is hot, nicely cooked and served, and that each patient is getting correct diet as prescribed by doctor; to carefully instruct juniors in proper tray service and to see that all helpless patients are fed; to make a room to room trip after trays are served to see that patients have eaten and enjoyed meals.

To give all medication occurring before and to 9:00 a. m. inclusive.

To take all T. P. Rs. up through that hour.

To make up all drug lists, requisition lists, etc.

To write up all charts to 9:00 a. m. inclusive.

To be entirely responsible for cleanliness of drug closet.

To prepare surgical trays and take charge of surgical dressings.

To make rounds with doctors and superintendent, reporting carefully about patients.

To see that all doctors' orders are carried out at the earliest possible moment, and to carefully supervise and direct nurses doing same, and to assume care of certain patients whenever necessary.

The head nurse is absolutely responsible for the comfort and welfare of all patients intrusted to her care.

She is to practice and to insist upon the greatest care and economy in the use of all hospital supplies.

She is to report any failure to carry out doctors' orders, with reasons for same, at earliest possible moment, also any sudden change in patients' condition or any high temperature to house surgeon and superintendent.

To inspect all beds and backs of all bed patients at least once daily.

To *immediately* report any accident happening to any patient under her charge to house surgeon and superintendent.

To write up night orders and diet slips.

To give personal supervision to all work done by nurses and orderlies or ward maids; to see that work is arranged so that day nurses can get off duty promptly at 7:00 p. m., and never to leave her ward at night until her nurses are also ready to go off duty, unless told to do so by supervisor.

To report to dietitian immediately any unsatisfactory diet, shortage, etc., and, in the event of repeated trouble, to report to supervisor; to make out all diet lists, ordering only the probable amount of extras needed, and practice judgment and economy in ordering of food and supplies.

To get a signed order from superintendent for any rush or special work from laundry.

To see that linen is carefully used, and to have all torn or ragged articles placed in a bag for repair or to be replaced; to see that all private room patients are bathed every other day and ward patients twice a week; bed patients given alcoholic rub every night.

In the absence of the senior nurse, her duties are to be assumed or arranged for her by the head nurse.

One of the most important duties of the head nurse is to keep the assistant superintendent informed at all times about any matter of interest or importance on her floor; any reports or complaints from patients or doctors must *always* be immediately referred to assistant superintendent; also any shortage of working materials, medicines, linen, supplies, etc.

The head nurse is to insist upon order and quiet at all times, and must eliminate all unnecessary noises, such as loud talking, rattling of dishes, utensils, etc. The head nurse should stand out as a leader, from the standpoint of efficiency, ethics, and good breeding, by her own personal example and precept.

Duties of the Senior Nurse.

The senior nurse is to assume duties and responsibilities of head nurse when she is absent or off duty.

To take charge of the most ill patients as assigned by head nurse. (Probably three, or in emergencies, four.)

To take all T. B. Rs. except those previous to 9:00 a. m.

To assist when necessary in making rounds with doctors and in preparing dressings, trays, and doing surgical dressings.

To give all unusual or special treatments.

To prepare patients for operation, and take them to operating room when necessary.

To be responsible for caring for work of juniors when they are off duty.

To see that all charting after 9:00 a. m. is kept up at all hours of the day.

To keep dressing trays set up and look after all sur-

gical instruments and supplies, and see that all such supplies are left ready for the night nurse.

Duties of the Juniors.

The juniors will be responsible for any of the senior work during absence of senior, or any other work arranged by head nurse.

To care for patients as assigned by head nurse; to do work thoroughly and quickly, and have patients comfortable and well cared for at all times; also to have private rooms and wards in strictest order.

When two juniors are on a floor, one shall be responsible for the diet kitchen and linen closet, and the other for the bath rooms and utensils.

To give any medication or treatment directed by head nurse, and, if directed to do so, to keep up patients' charts after 9:00 a. m.

To keep head nurse carefully informed as to patients' condition at all times. If any bed patient shows the least tendency to bed sores, same to be immediately reported to head nurse.

Duties of Probationers.

Probationers are to dust rooms, arrange flowers, put empty beds and rooms in order, and care for bath rooms, diet kitchen, linen closets, and chart rooms; also to have such other duties concerning the personal care and treatment of patients as arranged for by superintendent with head nurse for the application of the principles of nursing as taught.

We endeavor to teach our nurses to be most prompt and careful in carrying out doctors' orders. The head nurse or senior on the ward makes the rounds with the various members of the staff, waiting on them as necessary. Before leaving the floor the doctor writes his own orders in the order book or requests the house physician to do so. The nurse who carries out the order initials it in red ink and also notes the hour. By means of this simple plan it can be immediately ascertained which nurse carried out the order, should there be any question concerning the matter.

Complaints from doctors are generally made personally to the superintendent or her assistant. Sometimes a complaint from a patient is made to the head nurse, who immediately reports to these officers for their investigation. Should a serious report be made concerning a nurse, she is requested to make her reply in writing. If a serious mistake has been made, the nurse is immediately taken off duty by the superintendent until the matter has been fully and fairly investigated.

DISCIPLINE AND DISMISSAL.

The superintendent is allowed power of dismissal, but this is never done without first reporting to the executive committee of the hospital board, and giving the nurse an opportunity to meet them and justify herself if possible.

In the third year of their training, our head nurses are given black bands for their caps. The greatest punishment which could possibly befall a third-year nurse is to have her black band taken away temporarily. In over six years this has occurred only twice, and it can be stated without the least exaggeration that the whole school actually suffered for and with these nurses. In many schools the system prevails of suspending a nurse as a punishment. She generally goes home and has a good time, receives much unwise sympathy from her family, and is a rather demoralizing element when she returns. Our method of discipline is to extend the nurses' period of service for any serious misdemeanor from two to four weeks. This punishment is so far from popular that it has been necessary to inflict it only twice in six years.

NURSES AND INTERNS.

The matter of the relations of the nurses to interns is one that does not trouble us greatly, as we usually have but one intern on duty. He is expected to be absolutely professional while on duty, and at other times has the same social privileges that any of the nurses' men friends are allowed. It has never yet been found necessary to formulate rules on this subject, nor have we ever heard of any rules that effected anything but a tendency to deceit and the desire to break them on the first possible occasion.

"THE HOME."

The nurses' home life is made as free and happy as possible. We have the advantage of large and very beautiful hospital grounds, with a good tennis court for the nurses. Our generous benefactor died before his plans for our benefit were completed, and so we are without a nurses' home built in accordance with our beautiful hospital, but it is hoped to build such a one as soon as financial conditions will permit. In the meantime we own a handsome, well-built private residence about one block from the hospital, with a cottage annex for additional bed room space. The home has large parlors and corridor which can be thrown together, and which give sufficient room for the many informal dances and parties that nurses always so greatly enjoy. The nurses are allowed to see their friends socially at the home and are encouraged to consider it in every way as a real home, with all customary home privileges and enjoyments.

Our nurses enjoy two rather unusual privileges, which they greatly appreciate. One is that their beds are made for them every morning by the nurses' home maid. I can distinctly remember how, when a junior nurse, it seemed to me like the very refinement of cruelty to be forced to make my own bed before going on duty when for a very certainty I would have to make so many

others during the day. This is something that is done for the nurses' comfort in very few schools. It sounds like a little thing, but—ask any pupil nurse who is obliged to make her own bed in the morning, and see what she says. Another reason for doing this is that our teaching of general hygiene looks rather like precept than principle when we shut our eyes to the fact that we permit nurses to care for their own beds in the hasty manner necessary when the rooms are to be left in perfect order before going on duty, which is the general rule in training schools.

The other privilege is that nurses having Sunday morning off duty have a breakfast of toast, coffee, and eggs sent over to the home about 8:30 a. m. This gives them a chance to sleep late if they desire to do so on Sunday morning, with the comforting assurance that their breakfast will not be forfeited as a result.

These are little things, but, after all, it is consideration in just such ways that goes far toward keeping nurses contented, loyal, and happy. A nurses' home should stand for a home in the highest sense of the word, and be a place where they are allowed every reasonable privilege and comfort, with the liberty of being noisy and frivolous to their hearts' content after the necessary repression of the day.

PROGRESSIVE DETAILS OF ADMINISTRATION OF A GIRLS' INDUSTRIAL HOME.

Correct Physical Condition Preliminary to Training in Spiritual Life—Ideals of Beauty Inherent but Uncultivated in Children—Family Life, Affection, and Kindness Prerequisites.

By MRS. A. M. CLAY,
SUPERINTENDENT STATE INDUSTRIAL HOME FOR GIRLS, CHILLICOTHE, MO.

PAPER I.

TO begin at the Beginning is to start with chaos and gross darkness, and this is the condition most frequently found by a superintendent on assuming the duties of administration, for it is the general tendency, one might almost say custom, of the inmates of industrial (or reform) schools to live up to tradition and previous practices, and try out, in ways too multitudinous to enumerate, "the new superintendent." Unless, therefore, one possesses overwhelming love for humanity, a comprehension of its inherent and cultivated possibilities, the capacity for anticipation of its designs, a courage which is eternal stranger to either mental, moral, or physical fear, a fixedness of purpose which nothing short of the premature arrival of the Almighty's judgment day can change, and a firmness of faith that ultimate success must necessarily crown all worthy efforts put forth for the benefit of mankind, it were well to pause ere undertaking a task of such enormous endeavor; but, possessed of these, the school and its possibilities are all your own, though considerable time will be required to so prove.

PHYSICAL CONDITIONS.

The first requisite to right living, also proper administration of affairs, is wholesome, sanitary surroundings. Nothing in the Scripture is more true or necessary than the injunction to recognize "first those things which are natural, after that the things which are spiritual." Every child has an inherent love for the beautiful, although in the delinquent child this has been, through environmental conditions, uncultivated, and therefore it has become mischievous and destructive. To teach, then, such children true beauty of every kind and form, and to inculcate within them habits of constructiveness and thrift, is to refine and elevate them. This teaching we began by organizing in each family a "Paint Club," whose members soon learned to paint and stencil beautifully, so that every wall (which was formerly begrimed, dingy, and defaced) is now wearing a beautiful, cheerful coat of very delicate green, with stenciled borders selected as follows: for family sitting rooms and bed rooms, borders of conventional designs in dark green; for certain halls, tulips in colors; and for dining rooms, grapes and vines properly tinted. The bed rooms were decorated as artistically as any other portion of the buildings, and no spot has been allowed to go unrepaired or unimproved.

All vermin is a thing of the past. A cockroach, which is the "bugbear" and menace, insectly speaking, of every institution, is rarely seen; but this absence of the pest is due, as is success in all things, to eternal vigilance. An institution, properly administered, should have no show cottage, nor those of inferior grade. If there is one place in the world more than another where all "should

[1]This is the first of a series of seven papers, one for each month, on the conduct of an industrial home for girls, applicable to all similar institutions.

Fig. 1. State Industrial Home for Girls—Central group of buildings.

share and share alike," it is in the material, mental, and moral benefits, and opportunities and conditions of an institution, for nowhere is the feeling of jealousy engendered so easily, nor the charge of partiality made more quickly, than there.

The oldest building, therefore, should be overhauled, that it may be as cleanly, convenient, and as beautiful as the newest, if this be possible, that every one of its inhabitants may feel a community of spirit, which shall bode well for the conduct of affairs.

oiled and varnished, excepting those in the kitchen and laundry, which, being situated on the first floor in each family building, and having good light and plenty of ventilation, were very properly left to be scrubbed. The care of floors and woodwork was thus reduced to a minimum, as the wiping of dust each day and the careful oiling of the floors with a good floor oil once each week has been found quite sufficient to keep them in perfect condition.

An especially good arrangement was obtained in the school building which had been built

Fig. 2. State Industrial Home for Girls—Calisthenic exercises on the grounds.

To scrub wood floors throughout an entire building daily is a most unsanitary and undesirable thing, though this was once a custom in this and in many other institutions; but the time can be so much better employed at sewing, cooking, weaving, washing, school or orchestral work, and in other departments, that every floor has been

with a small room adjoining each school room (for what purpose was not evident). Each of these was fitted up with shelves for supplies, a lavatory, and a toilet. In any school containing but one sex this is not only possible, but very excellent, disciplinarily speaking, as well as being sanitary and convenient.

The old cells and punishment rooms, in use in the cottages for twenty years previous, soon came to be no longer needed, and were fitted up with shelves and converted into fruit cellars and paint supply rooms. Attics filled with old clothes, discarded furniture, etc., were cleaned out, plastered, painted, and converted into family clothing rooms.

Back porches were rebuilt, latticed to the ground, painted, and vines trained on them. Family sitting rooms were remodeled, and the interior of every cottage refurnished—"upstairs, downstairs, and in every lady's chamber."

The grounds next received attention. A park was fenced off, a band stand and grand stand built, and regular field days inaugurated.

During all of the time that the improvements and repairs of buildings were being made, two other important factors in progressive administration were not, however, being overlooked, but, on the contrary, were being steadily changed and increased—namely, the clothing and the food.

Fig. 3. State Industrial Home for Girls—The ball field.

CLOTHING.

No delinquent, devoid of pride, can ever be reformed. The first principle—that of pride in their dwelling place—must be conjoined to that of pride in their personal appearance. Brown denim dresses, aside from being ugly in appearance, made their wearers so in fact, as they were painfully warm and uncomfortable as well as unsanitary. These constituted the kitchen and laundry garb as supplied by the institution. Heavy shoes, gray stockings, and a motley array of dresses of all styles and materials made up the garments with which they were clothed. Gaudy jewelry galore and hairdressing in most unusual fashion were evident on every hand. To make plain the benefits of uniform clothing in desirable color and material; the pleasure in neat, lightweight shoes, and in black hosiery; the satisfaction in knowing one's self to be not only becomingly appareled, with hair modestly dressed, and without a garish display of jewelry, was a question of only a little time and some heart-to-heart talks. The result was a blue gingham, trimmed with white braid, and ruffled light calico lap aprons for the week days, and a white shirtwaist suit of "near linen" for Sundays. The effect of this simple, dignified apparel, with a better quality of underwear, was soon apparent, and did much toward marking a new era in institution conditions.

FOODS.

The question of greater variety of foods and better balanced was one of considerable discussion, but finally a general menu was selected, with the understanding that as many variations and additions as were possible could be made. Certain substantials, vegetables of all kinds, meats and fish, fresh, dried, and canned fruits, and cereals were included in the bill of fare, with cakes, pies, and other pastries on Sundays and holidays. On Thanksgiving and Christmas days delicious turkey dinners, with full and complete accompaniments, have for the past six years graced our dining tables, and often have we been told on these occasions by various girls that "this is the best ever!" One thing always insisted upon was that all foods be well cooked, properly seasoned, and appetizingly served, and that they be furnished in abundance.

The health conditions have been remarkable. No epidemics or contagion, excepting measles once in one family, have been present in the last seven years, and no death, excepting one, over twenty years ago, of peritonitis, has occurred in the institution. We believe no other institution

of as long standing can boast the total absence of a cemetery.

No "restricted diet" is ever permitted as a disciplinary measure, and no effort is spared to evidence our desire to make our girls healthful, robust, self-reliant young women, capable of undertaking the duties of self-support.

To sum up briefly the items of administration, we would place them in order as each came, in turn and in seeming importance—housing, clothing, foods, health—knowing that as a house must be builded before its occupancy, the cup fashioned first on the outside, the body created before the spirit inhabits it, even so must all those things which are material and natural first receive complete care and consideration if one is to do their duty to the full.

GENERAL TORNEY'S "CONCLUSIONS."

Annual Report of the Late Surgeon-General—A Pathetic Summary of Progress and Achievement.

The 1913 annual report of the surgeon-general of the army is just off the press. It is a comprehensive volume of 300 pages, treating of the improvements, administration, and needs of the medical department of the United States army during the year.

There is a most pathetic, and yet a most encouraging, message in one of the pages of this report, headed "Conclusion," and was written by the late surgeon-general in person, and, as will be noted, was intended as a summary of achievement in administration, on the eve of his retirement under the age limit rule. It was General Torney's "Goodbye," and those of us who were so favored as to know him well will read the message as his own statement, however modestly put, of his contribution to the progress of medical science in a constructive, administrative way. It is more than worth publishing, if for no other reason than it is a calm summary of medical progress as applied to a definite class of society. The part of the report referred to as under the head of "Conclusion" is as follows:

"This report is the last which will be signed by the present surgeon-general on account of his retirement for age during the current fiscal year, after an incumbency of five years four and one-half months. It seems advisable, therefore, that a brief summary be made of the work done by the medical department and of the results obtained under his administration.

"1. Typhoid fever, the most formidable of all camp diseases in the past, has apparently practically ceased to be a cause of noneffectiveness in our army. This, as is well known, is the brilliant result of the immunization of our army against this disease by the typhoid prophylactic. It was demonstrated in the maneuver camp at San Antonio in 1911 that it was entirely practicable to immunize a division upon mobilization without materially interfering with the military duties. The same can be done for any number of divisions. Thus, if at any time it becomes necessary to mobilize a large army of militia and volunteers, they can be properly protected against this disease in a short time after arrival in camp. The first steps in this campaign were inaugurated by my predecessor, General O'Reilly, in the latter part of 1908, and has been conducted to the present stage by the medical corps during my incumbency. I consider that, among the sanitary achievements of the medical department in preventive medicine, this measure for the prevention of this disease ranks second in importance only to the discovery of the method of transmission of yellow fever.

"2. It appears, as stated elsewhere in this report, that at last effective measures have been instituted to control the occurrence of venereal diseases. Practically the first note of this campaign was sounded in a circular letter from this office January 25, 1909. Since that time a vigorous campaign has been conducted, and interest throughout the medical department and the army at large has been aroused. The War Department was finally persuaded to take official action in 1912, and Congress, at the suggestion of this office, passed the act for the stoppage of pay in 1912. The statistics for the year 1912 and for the first six months of 1913 show that the results obtained are eminently satisfacory, and would indicate that we may hope for still more satisfactory results in the future. Great credit is due to certain enthusiastic medical officers for especially good work done during this campaign.

"3. Prior to the year 1910 among the native troops in the Philippine Islands, beriberi each year caused a large number of admissions to sick report and much noneffectiveness. This disease was also responsible for the greatest number of deaths, and was second only to tuberculosis as a cause for discharge for disability. Experiments conducted by several observers, and confirmed by the board for the study of tropical diseases in the Philippine Islands, showed that beriberi occurred among peoples subsisting largely on highly-milled rice. As a result of recommendations by the board, orders were issued by the division commander and later by the War Department prescribing that only unpolished rice be issued and that a legume be added to the ration. Following the change in the ration, beriberi has practically disappeared from among these troops. Only three cases occurred in 1911 and two in 1912.

"4. As a result of constantly improving sanitary measures, the constantly noneffective and admission rates have steadily declined since the Spanish-American War. During the last few years, as the result of the antityphoid and venereal campaigns, these rates have decreased more rapidly, and in 1912 were the most satisfactory on record. This year, 1913, bids fair to eclipse all records, and it would seem at the present time that these rates this year would reach an almost irreducible minimum.

"5. Camp sanitation has been improved, simplified, and rendered inexpensive. It is being demonstrated each day that troops properly protected against typhoid fever and smallpox can live in camps suitably located, with the present method of camp sanitation, for an indefinite length of time with no increase in morbidity or mortality."

NEW TYPE OF TUBERCULOSIS HOSPITAL.

New York the First City to Have Special Institution for Surgical Cases.

The new Seaside Hospital at Telawanna Park, Rockaway, N. Y., is the first attempt to build and operate a special institution for nonpulmonary tuberculosis, or what the doctors call surgical tuberculosis.

The Seaside project is an old and long-drawn out one. It had its initiation in 1906, when a fund of $275,000 was raised in a country-wide campaign, in which the picture of "Smiling Joe," strapped to a Bradford frame, played a most important part. The city was offered the fund, provided it would find a site and operate the hospital. Only now the city is able to do this.

The hospital, when completed, is expected to cost about $2,000,000 and have a capacity of 1,000 beds. Just now two pavilions for 150 children will be built out of the above fund, controlled by the Association for Improving the Condition of the Poor. Additions will be made as the city is able to appropriate the necessary funds.

The hospital will be devoted to the care of all tubercular cases, excepting those involving the lungs.

Ira C. Calef, a resident of Washington, D. C., has contributed $10,000 as a New Year gift to the Heaton Hospital, Montpelier, Vermont.

The MODERN HOSPITAL

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Mental Cases in General Hospitals.

The pioneer work of the Albany Hospital during the past eleven years, in its hospital care of acute cases of insanity, has attracted much attention and deserves the study of other hospital managers. The activity of the service there is indicated by the admission and treatment of 341 persons during the year in a ward of about 30 beds, with an average residence of twenty-three days for each patient. Most of these persons came into the hospital ward in a critical condition, with the issue of life and death in the balance, and upwards of 50 percent of them were discharged in a recovered and improved condition. It is clear that a new field of usefulness to the public is here opened to the general hospital by which persons in the early stages of mental disorder, or apparently threatened with insanity, may without the formality of a legal commitment and its consequent disadvantages go to a hospital where they can receive prompt care and skilled treatment. In the past, for lack of such facilities close at hand, proper treatment has been delayed, and patients have generally remained at home until their condition had grown most serious.

The psychopathic ward of a general hospital places mental disease on the same footing as other bodily diseases and secures early care. If the symptoms, often so alarming, are the result of an active poison in the body, like the toxic conditions developed in nephritis, typhoid fever, pneumonia, alcoholism, or surgical injuries, the possibility of a hurried and erroneous judgment that the patient is insane is thus avoided and prompt treatment is secured. If, on the other hand, a condition of delirium from active disease, often very terrifying to other patients, develops in the ward of a general hospital, the facility with which the sufferer may be transferred without exposure, to a place where he will receive the nursing and care which considerations of safety and proper treatment require, is of the highest importance. Whatever the outcome, prompt treatment has been secured with a minimum of peril and even of discomfort to the one most interested—the patient himself.

In every large general hospital the relief thus secured in its own wards by the proximity of a psychopathic ward can be readily imagined.

It is equally obvious that nurses may receive equal benefit if in the course of training they have an opportunity to become familiar with the nursing of patients in the different forms of delirium. In fact, most of the mishaps which occur in hospital wards are due to a lack of acquaintance on the part of the nurse with the difficulties and perils of delirious patients.

Is it not the duty of hospital managers in all cities where provision is lacking for the care of acute cases of alcoholism, insanity, or other diseases marked by active delirium, to set apart a ward for their accommodation?

HENRY M. HURD.

The Items in Hospital Efficiency.

I. INTRODUCTION.

For the past five years "hospital efficiency" and "hospital progress" have grown to be a fetish with some of us. We have talked and written in season and out about improved hospital conditions. We have instigated investigations here and there where we thought conditions were not correct. The people have become aroused, and have concluded that hospital conditions do need improving. Boards of trustees have awakened to the fact that their institutions are lacking in something. Many of us have inquiries coming constantly from all parts of the country requesting information as to just what they can do to give better service to patients and physicians and the public.

But there seems to be a general haziness in the situation, and want of agreement among us as to just what hospital efficiency means and what con-

stitutes hospital progress. Some of us have pretty well-defined notions about what an efficient hospital is in this modern day and in the light of the possibilities of medical science. It is intended in this series of papers to give one individual's views of hospital efficiency.

In this first paper let us introduce the subject by stating the problem, if nothing else.

In a second paper let us take up one item of the problem, one that is perhaps the most important item in hospital efficiency of today—namely, service to the patient and the physician through the laboratory of pathology. We will discuss this from the standpoint of the large hospital and of the small hospital; of the general hospital and of the special hospital; of the municipal hospital and the sanatorium, for general as well as for special purposes.

In the next paper let us take up the problem of physical therapy in the hospital, outlining what can and what should be done in the field of physical therapy in the several classes of hospitals. It is a large subject, and is growing larger all the time as our drug departments are growing smaller year by year.

In still another paper let us take up the question of hospital diets. In this paper we shall have fairly before us the problem of foods versus drugs. Medical men are supplanting medication by the use of special diets given for special purposes under special conditions. The hospital has a large duty in regard to this item of hospital progress and efficiency, because medical men themselves, while perfectly conversant with the physiology of the digestion, with the chemistry of foods and with the pathology of their cases, are not well grounded in the fundamental principles of how their scientific needs must be accommodated under the physical limitations of the modern hospital.

In another paper we shall discuss nursing—not nursing from the nurse's standpoint, but nursing from the standpoint of the physician and his patient; the problem is: To what extent can and should the modern hospital support the doctor's treatment of his case by way of nursing? We have talked and written so much about nurses and nursing that the topic may seem to be hackneyed, and is hackneyed, but it has become so largely by reason of the fact that it is perhaps the most important item in the hospital care of the patient, and it has become hackneyed because so many of us have divergent views on the subject; but from the viewpoint of these present papers the question at issue may be considered almost an economic one. We all agree on what good nursing consists of, but there are limitations to good nursing created by the financial limitations in most hospitals. Then, by easy stages, the problem presented is: What may a modestly endowed, carefully administered hospital be expected to do for its patients to satisfy the demands of present-day medical science, and in view of financial and other limitations?

In still another paper I think we should discuss hygienic and sanitary conditions in our hospitals —not wholly ideal conditions, but conditions made possible by our financial limitations, conditions obtaining in old as well as new hospitals. What may the doctor expect for his patient in hygiene and sanitation in a hospital built long ago? What is good hygiene and sanitation in a hospital? It may be that this topic, too, seems hackneyed, but out of ten well-informed hospital people who are asked to give an answer to this question there will probably be nine different answers, or perhaps ten.

Still another topic that we will endeavor to discuss will be out-patient service. This takes in the dispensary, visiting nurse work, follow-up system, public welfare service, to which every hospital must now commit itself to the limit of its financial resources. No longer can we regard our institution as a place limited by four walls; wherever there is a human being, there is a health problem; and wherever there is a health problem, there is work for the hospital. We know quite well what is ideal as regards these items of hospital efficiency, but how shall we answer the administrator of a small, poorly endowed, struggling institution who asks, "What can I do in this missionary work, in this broad public service, with our small means?" It will be attempted in this paper to answer that question. It need not be expected that we shall propose impossible things, but, if the modern hospital is an all-pervading community force, then the community as a whole, and each individual separately, must do its and his and her part toward helping the hospital serve its magnificent purpose. How can these agencies be correlated? Let us try to answer that problem also.

We have reserved perhaps the most perplexing of all these problems for the last—namely, social insurance. Little by little the world is coming to concede that each member of the community owes to every other member a helpfulness and guardianship that will minimize his suffering and his wants, and make him independent in so far as his creature comfort is concerned, to the end that he may go forward upon the career that he has assigned himself, or that has been assigned to him, and bring to it the largest possible fruitfulness, without the necessity to think what may

happen to him tomorrow in the event of sickness or misfortune.

Will it be said that we have undertaken a monumental task in the discussion of papers of the magnitude of these proposed? Let it be said in extenuation that it is not proposed to settle anything, but rather to lay the lines for a discussion of problems that perhaps all of us together may settle. These papers will be the individual opinion of one person, limited by his ignorance, want of fundamental understanding of conditions that perhaps others have mastered; but they will be honest opinions and well meant, and it is sincerely hoped that they may lead others, capable of higher thought, to calmer deliberation and a more studied judgment to help solve the problem.

JOHN ALLAN HORNSBY.

The Future of the Family Doctor.

About the year 1765, during the reign of George III., of convivial memory, the wigmakers of London petitioned his majesty, begging that he would restore to his royal head the peruke that he seems to have discarded as an unnecessary handicap to his freedom of action. As is the wont of toadies and tuft hunters everywhere, fashionable England had followed in the footsteps of their royal master, discarded the wigs universally worn up to that time, and the wigmaking business of England came upon a dearth of orders that threatened its very existence.

The petition of the wigmaking guild monopolized the attention of the people, occasioned debate in Parliament, and nearly all England took sides. It was a calamity-threatening situation, and the continuance in power of the ruling party hung upon its popular solution.

One day, while yet the controversy waxed fast and furious, another petition was laid before the throne, praying that his majesty would wear a wooden leg, that by his imperial example the fashionables might all be induced to wear wooden legs, and thus greatly aid the craft of body carpenters, whose business was almost destroyed by a long spell of peace that had reigned in the land. There was a national guffaw at the expense of the wigmakers, who thereupon went into other occupations, and lived happily ever after.

These historic reflections are occasioned just at this moment by fear, expressed in some of the medical journals, that the family doctor—God bless him!—is likely to be driven into permanent exile by modern hospital activities, social insurance, visiting nursing, and kindred modern expressions of a new social order.

The family doctor is really worth our most serious consideration, not alone because about him cling some of the dearest memories of all of us, not only because the mere mention of him takes us back to the hallowed scenes of our childhood, onion poultices, castor oil, colds, and green-apple colic, but because we really *are* moving somewhat rapidly into unsounded social depths, and it behooves us to let down a lead occasionally, if only to be assured against the proximity of social rocks and shoals.

What really is to be the future of the family doctor? THE MODERN HOSPITAL, in its salutary bow upon entering the field of hospital service in September last, predicted that eventually there must be a bed in a good hospital for every sick and hurt man, woman, and child. In this evolution, which we have no doubt is a consummation of the not far distant future, the family doctor must be disposed of in some way. If he is no longer needed in the new order, he will disappear, just as the tail of the human animal disappeared when the passing of the cocoanut age made it no longer necessary for him to swing from limb to limb to find his food.

But we do not think the family doctor is to disappear, but merely that he is to be metamorphosed into a very necessary piece of the social machinery of the future. No one expects that for every ache and pain the father or mother or child of the family will be rushed to the hospital; but the doctor will be needed, and he will be called. Perhaps the ailment is only some fugitive indisposition that can be cured by a day in bed or an active drug; and the family doctor will prescribe whichever is required. But if the illness persists, and, refusing to be dissipated after a few days, assumes the proportions of a definite pathology, it will be the part of the family doctor to order the patient to the hospital, where he can have access to the vast and constantly growing technical apparatus, by which a definite diagnosis can be arrived at, and by the skilled application of which he can be treated under the eye and direction of the particular specialist trained in that branch of medicine.

When that day comes, the general practitioner will have no place on the hospital staff; he will be the connecting link between the home and the hospital. Whether he shall collect his fee, as he does now, from the patient or his family, or whether from government insurance funds, as the panel doctor of Britain collects his under the Lloyd-George laws, or from one of several sick funds, as is the present practice in Germany, depends very much on how far paternalism runs riot in this country as a reversal of our present social principle of individual initiative.

In the meantime, states, counties, and towns

are building hospitals to take care of their sick. In Massachusetts, probably the most solicitous state in the union for the welfare of its sick, only 13 percent of the sick who had occasion for a physician's services last year were cared for in hospitals; in Birmingham, England, in the same time, 11 percent of the sick went to the hospital. Many of the states have enacted laws compelling their constituent communities, counties, and towns to build hospitals.

Medical education grows apace. Fewer and better schools are the order of the day. Men and women are going into medical practice better equipped than ever before, and fitter to carry the responsibilities that go with the war for human health and happiness.

The whole world is racing for the front in every line of endeavor; the fittest will arrive—the incompetents will fall and be trampled upon. Let us not hold back human progress—even for the old-time family doctor; those of him who are here now will stay until, in the fullness of time, they are gathered to their fathers, and the new family doctor will be in step with his day and generation. Like water and all other things in life and nature, each one of him will find his level, and that level will be ever higher and worthier; and the doctor, the human expression of man's highest and holiest duty toward man, like Abou Ben Adhem of old, will lead all the rest.

Salaries of Superintendents.

Probably the poorest paid professional man in this country, as a class, is the hospital administrator. There are individuals of conspicuous ability and who have been fortunate in their environment who get very good salaries, but the great majority get paid for their services far less than any class of people of anything like their ability.

This statement does not refer to those untrained men and women who, through influence and favoritism, or through fortuitous circumstances, obtain their place. A clergyman who can be spared from the pulpit is made superintendent of the hospital whose building funds he has helped to raise; a widow, known in the community as a "good manager," is made superintendent of the little community hospital because she will work cheap, is a good housekeeper and a good cook. Sometimes such a man or woman develops into a good hospital superintendent—good in so far as the physical parts of the administration are concerned. But when we talk about a hospital superintendent in this modern day, we must mean one who has gone through the long grueling training necessary to fit him or her to direct the activities of a hospital in a way that will satisfy modern scientific requirements, and it is these who are woefully underpaid.

The modern hospital administrator is a man or woman of good primary education, on which to build a highly technical training; he or she must know a great deal about physics in order to master the intricacies of hygiene, sanitation, alterations, and repairs; must have a medical training or a nurse training, in order to direct the work for and on patients, and furnish the facilities which doctors require for their purposes; must have a working knowledge of the x-ray, hydrotherapy, asepsis, special diets; must know bookkeeping, in order to direct the cost and accounting system; must be thoroughly informed concerning the record-keeping; must know about hospital supplies and how to buy them to the best advantage; finally, he or she must be a past-master in the art of getting along with most difficult classes of people—help who are disposed to soldier and pilfer, doctors who want what they want when they want it, a public strung to the highest nervous pitch because their loved ones are sick and suffering, trustees generally poorly informed about hospital activities, and each one of whom wants to "boss things" in some part of the establishment. Add to the training in all these directions the ability to know what is going on in the institution twenty-four hours of the day, a constitution that will permit loss of rest over long hours in emergency, the tact that knows just what to do instantly and under the most trying circumstances, and we have a hospital administrator.

Sometimes a board of trustees, cock sure of its own infallibility, employs a superintendent at a clerk's wages, on the excuse that in any event they themselves must run the hospital, and all they need is some one to carry out their orders. Not long ago the writer was asked to help find a superintendent for a municipal hospital of 300 beds in a city of a quarter million of people. They were paying at the time $1,000 per year, but the incumbent of the office "was not satisfactory," and the president was "compelled to visit the institution twice a day"—once to give orders, and again to see that they were carried out. No one could make him see that the best administrator alive must have failed under those circumstances, but he finally agreed to remain away from the hospital for a week "just to see." That president is now numbered with his fathers; that superintendent is getting $4,000, about half of what he is worth, and he has a real hospital, in which he is the master every minute of the time.

In a factory or a department store, or any mercantile business, the manager who knows as much about the business in all its angles as a good hos-

pital administrator does about his gets a salary of from $5,000 to $25,000 a year—and he deals only with money and its equivalent in merchandise. If he makes a mistake, it may cost a few dollars. If the hospital administrator makes a mistake, it may cost a life, or it may alienate the support of the institution.

Boards of trustees do not run hospitals. Point out to us a good hospital, and we will show you a good superintendent—either the one in it at the time, or the one who made it a good institution. There are some excellent hospitals that have poor superintendents, but in every case it will be found that some capable man or woman was responsible for the excellence. Take the best hospital in this country that any of us knows about—do we know the name of a trustee in it? And whose name do we know in connection with it? That of the superintendent, every time.

Then let us begin to think and talk about better salaries for trained, capable hospital administrators.

Beaumont Approaches Its Problem Correctly.

Physicians of Beaumont, Texas, are going the right way about the business of getting a new public hospital for their community. The Jefferson County Medical Society has the matter in charge, and began by showing that 250 free beds are seriously needed in the community, which now has 130. They have recognized the mandatory character of the McGregor-Colquitt law, passed at the last session of the state Legislature, which provides that every county with a population of 10,000 shall build and operate a general hospital for the care of all classes of patients—tuberculosis, surgical, medical, children, maternity, and communicable. They have, based on this law, planned a hospital to cost $140,000. They are proposing now to go before the taxpayers for a bond issue, and have so closely calculated that they are enabled to state definitely to the voters that the hospital will cost 3½ cents on every $100 of taxable property.

If the physicians have gone into the matter thoroughly, and can substantiate their figures, there is no reason why the people should not stand behind them and make their dreams come true. It is rare that the physicians in any community can agree on and put through the business end of a hospital movement of this character. It is the logical way for the problem to be approached, and, if this county medical society can demonstrate its ability to lead the people along true lines in this, the greatest of their public health problems, they will not only have earned a permanent leadership in all health problems for the future, but they will have done a very great service for the medical profession everywhere, to say nothing of what they will have done for their own people.

Detroit's Advanced Position.

Detroit is proposing to build a new house of correction for petty offenders at a new location out in the country, and the authorities are looking for a suitable farm for the purpose. The city has been making money out of the present arrangement, and last year there was a net profit of $6,493.53. Since the establishment of the institution, fifty-three years ago, net profits of more than $975,000 have been made.

But profits to the city have not satisfied the people of Detroit. In 1901 a cooperative plan was adopted by which prisoners might share in the profits, and last year $14,000 was paid to prisoners as their share. It is proposed now to buy and operate a farm along the same cooperative lines.

No one can tell how much this institution, a survival of the old prison type, has done for those who entered and left its doors, but it is certain that immense good has come out of this method of handling perhaps the most difficult class of unfortunates.

Some day society will take the right attitude toward its "goats," and treat them as the victims of environment and bad breeding; and we may look for the initiative to be taken by such splendid institutions as this Detroit "hospital."

One More Item of Progress.

It is the intention of THE MODERN HOSPITAL to eventually establish news centers all over the country for the purpose of keeping our readers informed of hospital progress. Something of a beginning of this work is made this month in the gossipy news column from Philadelphia by Dr. William H. Walsh, superintendent of the hospital for contagious diseases.

We shall be deeply grateful, and the readers of this journal will be grateful for volunteers in each community, who will undertake to send each month whatever news may develop. THE MODERN HOSPITAL can achieve its broadest usefulness to hospital workers only by the help of all, and by the greatest possible interchange of experience.

Will those who feel that they are willing to help as well as be helped, kindly communicate with the editorial offices in Chicago?

A New Iowa Idea.

The State Board of Education of Iowa has promulgated a new rule for the hospital of the State University at Iowa City, the principle of which we shall hear much more about in the near future.

They have prescribed incidentally that only members of the faculty of the school may use the hospital for their private patients, which practically shuts out the local profession; but the board goes further and prescribes that faculty members even may send patients to be treated only in their own specialties—that is, the teacher in surgery may send only surgical cases, the gynecologist may send only gynecological patients, and so on.

In another editorial in this number we have dwelt somewhat on the family doctor of the future, and have made the prediction that in the hospital of the future the family doctor would have no part—that it would be an institution of specialists. That editorial was written before the present news came from Iowa, but the drift of the new "Iowa Idea" rather lends force to the prediction.

Mr. Van der Bent's Papers.

We are publishing in this number the second installment of Mr. Van der Bent's papers on architectural problems in hospital construction and administration. These papers are of the greatest value, coming as they do from one who has been building hospitals and similar institutions for years. Those who have any interest in hospital construction or who conceive that efficiency in administration bears any relationship to hospital architecture, should read the papers carefully and study them. The first installment was published in the February issue.

Our March Cover Design.

Mr. Garden's etching this month is the administration building of the new Louisville City Hospital, a handsome structure, built in every way according to accepted architectural lines, and a monument to the public spirit and enterprise of the Blue Grass City.

To Curb Money-Making Campaigns.

The Federation of Charity and Philanthropy of Cleveland has made common cause with the Chamber of Commerce of that city to prevent the continuance of unauthorized campaigns for money-raising. It is proposed that the federation shall inaugurate a campaign at once to raise $1,000,000, to be divided among the fifty-five charities which are members. This money, it is proposed, shall be divided according to the actual needs of the subsidiary organizations, and that thereafter no charity or philanthropy will have the support of the charitably disposed without the consent of the Chamber of Commerce.

Ex-President Wm. Howard Taft and Henry B. Tine, the latter a professor at Princeton, are both mentioned as possible successors to Dr. Ira B. Remsen, who resigned some time ago from the board of trustees of the Johns Hopkins University.

EDITORIAL COMMENT.

Tax Commissioner Samuel Lord, of Minneapolis, proposes to tax hospitals that are not doing real charity. He claims that many of the larger hospitals of Minneapolis, started out as charity institutions, have lost the charity character, and are now money-making enterprises. It is said that "it takes all kinds of people to make a world," and it may fairly be supposed that charitably inclined people must have an offset such as this tax commissioner. It is unfortunately too true that many hospitals lose their charity and even benevolent character, and degenerate into very poor business propositions. If a few more tax commissioners will agitate this matter, it will not be long before hospitals will be forced to open their books for the inspection of tax officers, which they decline to do now for the inspection of intending donors. Hypocrisy is a hateful vice, and when it is exercised to exploit the sick poor it is the worst of all human traits. Hospitals that are run for money, and avoid their just business obligations on the plea of their charity work, should be exposed. When the sheep can be separated from the goats, it will be easier to obtain money from the well-to-do and well-disposed for real charity.

Mr. R. J. Newton, secretary of the Texas Conference on Charities and Corrections, has petitioned the federal Government through the Texas delegation in Congress to establish and operate tuberculosis hospitals in a number of places in the Southwest—California, Texas, Arizona, and New Mexico—to care for patients who have left their homes elsewhere for the dry, warm climate, and have become charges on the localities to which they have gone.

There is no doubt that an immense number of helpless people have journeyed to the far Southwest as a last resort; with the ever hopefulness of the tuberculous, they have been sure that, once they were in the sunny Southwest, they would be able to work and get well; but they could not work, and have become charges. This condition must grow rather than cease, and it seems as though it would be a very fine piece of welfare work for the Government to take over this burden from the several states. It is certain the states are not to blame, and should not be made to carry it.

The Government has already a magnificent tuberculosis army hospital in New Mexico, and has proven the usefulness of such an institution. Let us have more such institutions, by all means, when so good a cause is at issue. A few "naval station" experts in Chicago, St. Louis, Minneapolis, and other seaboard cities might be dispensed

with, and perhaps the annual appropriation to dredge Salt river and Wild Horse creek might be suspended to meet the expense.

Duluth is planning for a city hospital. The campaign took concrete form following Dr. Richard O. Beard's paper, read before the Women's Council recently, and published in this issue of THE MODERN HOSPITAL. The *News-Tribune* of that city is doing all it can to work up enthusiasm for the project. It seems that a special tax levy will be required under the prevailing law, and it is proposed to vote on such a levy at the next election. In the meantime the *News-Tribune* is arguing that if common humanity and the right of the poor as well as the rich to be properly cared for in illness are not sufficient arguments for a municipal hospital, a little figuring will convince anyone who confines his sentiments to pure finance that it is far cheaper for the community to cure a sick man, and restore him to his place as the family breadwinner, than it is to bury him and then support his family. Sounds like pretty good logic.

Children's Hospital of Philadelphia.

In an open letter to the public the managers of the Children's Hospital of Philadelphia make the following appeal:

To all who have at heart the welfare of little children: The babies and children of Philadelphia need your help. Twenty-four thousand babies under 1 year of age died in Philadelphia during the past five years—one of every eight born. Half of these deaths could have been prevented. Five hundred thousand children under 12 years of age live in Philadelphia. Our hospitals provide for the care of these children less than 800 beds—a totally inadequate number.

Since 1855, when the Children's Hospital of Philadelphia was founded, it has given free treatment to more than 275,000 sick children. It is, however, no longer possible for the hospital to do the work with its present equipment. The managers have, therefore, commenced the erection of new buildings on a new site at the corner of Eighteenth and Bainbridge streets. Through the gift of one generous donor they have been able to purchase the new site at a cost of $100,000, and with the aid of others to provide for the completion of the babies' dispensary and the out-patient building. Five hundred thousand dollars is still needed for the construction and equipment of the main hospital building and the nurses' home. The managers hope that you may feel willing and able to join them in providing this amount. The hospital is entirely dependent on the generosity of its contributors, and has never asked or received any appropriations from city or state.

The surgeon-general of the navy, in his annual report, recommends the construction on accepted plans of a hospital ship for each fleet, the assignment of medical officers of the fleet to brief periods of duty on the hospital ship, that marine guards be stationed at all naval hospitals, and that the Naval Hospital, Las Animas, be abandoned.

WOMEN PAY THEIR WAY WHILE UNDER TREATMENT.

Arequipa Sanatorium for Working Women Sets Pace for Other Philanthropic Movements—Is Center for City-Wide White Plague War.

The reeducation of those who, because of illness, have been unable to continue at their trade or former occupation, the teaching of deficients and incurables to do some remunerative work that will make them assets instead of liabilities of society, and that will make them happy and self-supporting, have had the finest effort of some of the most intelligent and philanthropic people of this country and Europe.

One such effort is that initiated by Dr. Philip King Brown, of San Francisco, and a devoted coterie of men and women. It has taken the form

Arequipa Sanatorium for tuberculous wage-earning women.

of a sanatorium for the treatment of early stages of tuberculosis in wage-earning women of California.

Arequipa Sanatorium, shown in the illustration, nestles in the hills at Fairfax, Marin county, about thirty miles from San Francisco. When the movement was inaugurated in 1911, it was with the hope, as expressed by Dr. Brown, that some day it might accomplish four things, namely:

1. Provide the best type of institution care to first-stage cases of tuberculosis at $1 a day, and make this sum pay running expenses.

2. Establish some work that the women might do without injury to their health, and with possible financial profit.

3. Secure cooperation in the support of early cases at the sanatorium from employers of female labor, and from social and labor organizations.

4. Carry on educational work among the 40,000 working girls in San Francisco, among whom the death rate from consumption is twice as high as among men.

To what extent success has crowned the efforts

of this fine coterie of people, Dr. Brown tells most entertainingly:

"We began with a proposal to charge the girls $1 per day for treatment, medicine, food, and nursing. In a short time we were forced to take some late-stage cases, and we added 50 cents per day to the charge for these bed cases. To give the girls occupation, and, if possible, remuneration for their work, the pottery was established. It has been supported by private individuals, and has not come under the expense of maintenance of the sanatorium in any way. The pottery has far exceeded the hopes of the founders. Our experiment has been an expensive one. The returns have justified it many times over, for the sale of the product of the pottery bids fair to pay back in time all the money invested in it. In the meantime several thousand dollars have been paid to the girls in wages. During the early months the girls were instructed in all of the departments of pottery work without any reference to the making of commercial pottery, the manager in the meantime carrying on an enormous number of experiments with California clays. Early in April (scarcely five months after the pottery started, and long before any sales whatever had been made) the foundation seemed so well laid that the girls were put on a system of pay for piece-work. At present there are at least twelve who are on the pay roll, and many of them earn enough to pay their way very comfortably. As much as $3 a day has been earned by some of the girls, which is interesting in connection with the fact that the working day does not exceed five hours for the physically ablest of the patients.

Tuberculosis girls at work.

They are not allowed to work on Saturdays or Sundays, and those who work longest have at least two hours rest at noon. It is quite possible for a first-stage case with a favorable outlook to earn enough in the pottery to pay all of her expenses after she has been there three months. Not every girl is sufficiently interested in the work, or has the ability or strength to do this. It has been a matter of record, however, that some of the more serious cases have not begun to improve until they began to do some work."

Dr. Brown tells us that some of the largest commercial houses of San Francisco have helped to develop the work among their own employees, sending to the sanatorium girls whose salaries were being paid for all the time they were idle. The companies have well-ordered welfare departments, he says, so that the girls can be reached in the early stages.

"The educational work in the factory settlements has been carried on vigorously," Dr. Brown writes, not only through the continuance of the visiting nurse of the San Francisco Polyclinic, but

Pottery made by the girls.

through the active cooperation of Mrs. Hannah Nolan, factory inspectress for the Board of Health. By these various means nineteen labor and social organizations of women have started educational work among their members, and five of these have provided sick benefits for patients at Arequipa. The institution received 66 cases during its first year, and nearly twice the number in the second year. There is a medical staff of six men and two women, who give their services free; a woman medical resident, Dr. Hattie Bedortha; a woman medical radiographer, Dr. Anna Davenport; and Miss L. Nora Harnden, superintendent.

Children Will Fight Flies.

The 1914 campaign against Kansas City flies was inaugurated a few days ago when Dr. Hasbrouck DeLamater, assistant health commissioner, appeared before the institute meeting of public school teachers and asked that pupils in all the schools be asked to serve on a quasi-official public welfare committee to notify the health department of breeding foci for flies in various places in the city. It is believed the children will take an interest in this work, and that through their efforts many of the smaller foci can be wiped out.

Youngstown, Ohio, is to have a special hospital to take care of 100 cases of trachoma, mostly in children of workmen in the Youngstown Sheet and Tube Company at East Youngstown. The company is taking the initiative, and will pay the expenses of the institution, which is to consist of a hospital and an out-patient service. A three-story building has been leased and will be completely remodeled for that purpose. There will be special quarters for children, including a school for those of school age.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

A Large Hospital Bequest. Hospital, London, 1914, LV, 382.

In the death, by accident, of J. C. Ansell, aged 17, through his father's will 263,000 francs becomes available for English hospitals and charitable institutions.

Welfare Stations for Infants. Monthly Bulletin of New York State Department of Health, December, 1913.

A detailed account is given of the work accomplished in establishing welfare stations outside of New York City, and the necessity is cited for its development, especially in the rural districts.

Training in Paris. Brit. Jour. Nursing, London, 1914, LII, No. 24.

A training school for nurses has been established by the American Hospital at Neuilly, Paris. It is believed that, after three years' training, women between 18 and 30 years of age will find ready field for practicing private nursing under the medical staff of the hospital.

Anesthesia as Interesting to Nurses. Ann. Surg., December, 1913.

Items of personal interest to nurses are furnished. The anesthesia supplement treats of many phases of anesthesia, the agent used, method employed, reflex action, the anesthetizer, deaths from and the legal aspect of anesthesia. Illustrations complete a most interesting topic.

The Nurse's Qualities. Ellen Harbridge. Nurses' Magazine.

The nurse must cultivate, early in her professional life, habits that will bear good results. If she does not already possess them, she must have the fair plant, Sympathy, which we may call Heartsease; the bright flower, Cheerfulness; and the sweet herb, Forbearance.

Practical Maternity Gown. Brit. Jour. Nursing, January, 1914.

A diagram and description is furnished of the practical invention of Fraulein Kathé Hartmann, of the German Nurses' Association. The garment is especially adapted for the lying-in hospital, and is constructed to serve a two-fold purpose—a nursing gown and a gown for exceptional circumstance.

Conservation—The Waste of Human Energy in Hospitals. Minnie Goodwin. Trained Nurse and Hosp. Rev., New York, 1914, LII, 80-83.

In her second paper the writer suggests the arrangement of a hospital. Two fundamental principles are considered: the most used rooms and the apparatus to be nearest the place where they are to be used—namely, the patient; that there should be no confusion, but that all paths should be direct. Diagrams are furnished.

Tuberculosis Prevention. Dr. H. M. Biggs. Annual Report to the Society of Tuberculosis Preventorium for Children.

The Doctor announces a subscription fund of $10,617 to the new open-air school building. The institution's capacity has been increased from 44 to 158 beds. The average stay of patients is three months, and 600 children can be cared for during the year.

Hospital Sunday. Rev. W. Hardy Harwood. Hospital, London, 1913, LIV.

In a special Hospital Sunday number the writer appeals to the charitably inclined public in behalf of the hospital. The current expenses of London hospitals are mentioned and the source of financial support shown. He does not spare the wanton enemies of "Hospital Sunday" and the curse of "misrepresentation."

Who Is the Real Philanthropist? Editorial in the Denver Medical Times, January, 1914.

The writer, when asking, "Who is the real philanthropist?" invites attention to the munificent gifts of our citizens, the endowing of various institutions, the establishing of hospitals, and provision for every essential feature of support, except the men of learning and skill, who do the most vital work of the institutions, and yet they are the only ones who are paid nothing.

Status of the Nurse in the Working World. Lavinia L. Dock. Brit. Jour. Nursing, London, 1914, LII, January 3.

In her paper on the duties and responsibilities of the trained nurse, the writer dwells on the common appeal of an adequate living wage for all workers. The nurse's status in the working world will always be decided by the attitude the nurse takes toward the needs and problems of the working world.

Conditions in China and Japan. Editorial in Survey, New York, 1913, XXXI, No. 16.

In his report, Dr. Eliot recommends the establishment of a hospital at Tientsin for Chinese patients, to be managed by American physicians and surgeons; to have a training school for nurses, out-patient departments, and all the up-to-date accessories of hospital philanthropy. Among the aids to Japan, Dr. Eliot recommends the endowment and establishment of a hospital for foreign residents at Tokyo.

Royal Patron of Nursing. Brit. Jour. Nursing, London, 1914, LII, 24.

The late Queen Sophia of Sweden, whose recent death is recorded, was the royal organizer of trained nursing in Sweden. Her practical interest was of long standing. Her majesty realized the need of a more effective organization of nursing and the necessity of nurses being chosen from the well-educated classes. Her desire was to provide instruction based on Christian principles. Through her benevolence large sanatoriums for consumptives were established.

Hospital Treatment for Tuberculosis.

At a meeting of the Board of Directors of the Association for Prevention of Tuberculosis, held in Washington on January 26 to consider home treatment of tuberculosis, its limitations and dangers, Ex-Surgeon-General Geo. M.

Sternberg, president of the association, read a paper advocating sanatorium or hospital treatment. As it is distinctly a house disease, the danger lies in its propagation from one member of a family to another. A report of Herbert G. Lampson, of the University of Minnesota, was presented in abstract.

Nurses' Statistics (Statistik des Personals in der Gesundheitspflege und dem Krankendienst). G. Streiter. Ztschr. f. Krankenanstalten, Leipsic, 1913, IX, No. 50.

From 1882 to 1895 the number of persons engaged in the health service and the nursing profession in Germany increased from 73,000 to 122,000 persons. Especially marked was the increase of the female attendants. The female nurses increased from 17,661 to 38,937 in 1895 and to 74,000 in 1907. In England there are 23 nurses for every 10,000 inhabitants; in Germany, 14.5; in Prussia, 14; in Australia, 8.25.

Operations in Hospitals. Brit. Jour. Nursing, London, 1914, LII, No. 1347.

At Stroud County Court, recently, a medical practitioner sued a dentist assistant for £17 for an operation on his wife, performed in a local general hospital. Payment was withheld on the ground that hospitals maintained by voluntary subscriptions furnished free treatment. The defendant stated he earned two guineas a week. The County Court decided the defendant must pay the amount claimed, observing that hospitals were founded to give free treatment to the poor, but not to those earning the defendant's wages.

The Norfolk and Norwich Hospital. Norwich. Sir Henry Burdett, Series III, Reports on Hospitals of the United Kingdom. Hospital, London, 1914, LV, 369.

Founded in 1771, the rebuilding of the hospital was begun in 1879 and completed five years later. The illustration accompanying the paper shows a spacious, well-planned hospital of a chain of two- and three-story buildings, covering a large acreage of ground, and connected by covered corridors. It has 230 beds, of which 202 are always available, 17 are reserved for emergency cases and 8 for infectious diseases. There is a staff of 44 nurses and probationers. The author claims the voluntary hospitals of Great Britain owe more to the late King Edward VII. than to any of his predecessors on the throne.

The State Hospital for the Insane at Sorau, Lower Lusatia (Die Landesirrenanstant Sorau, N.-L.). Ztschr. f. Krankenanstalten, Leipsic, 1913, IX, No. 51.

The Sorau hospital was originally a castle, built in 1723. It was changed into an insane asylum in 1812 by the Saxon Government. In the course of time the institution was greatly enlarged. A large area of the adjoining land was acquired, and in 1891 the colony system was initiated. A great number of new buildings were erected, among them a fine administration building and a church. The institution is now one of the largest insane hospitals in existence. The building complex around the old castle looks like a small city. The hospital owns about 850 acres of the adjoining land, 800 acres of which are under cultivation.

Observation Wards and Noncontagious Diseases. Lancet Clinic, Cincinnati, 1913, CX, No. 25.

The new Cincinnati General Hospital will have a feature that will doubtless be common in the future municipal and urban hospitals, and is to consist of observation wards connected with the receiving department. Emergency cases are often taken in when a correct diagnosis is essential for early and correct treatment—when, for example, discrimination is to be made between alcoholism and hemiplegia or lineal fracture of the skull beneath a scalp wound or in the case of a patient who has been drinking. In justice to the police and for the protection of the patient's reputation, a careful diagnosis in the unconscious or semi-conscious is to be reached. In doubtful cases the patient will be received in the observation wards, and treated by those whose experience and training will enable them to arrive at a correct diagnosis.

Hospitals as Educational Institutions. Thomas Howell. Quart. Fed. State Med. Board, U. S., Easton, Pa., 1914, I, No. 1.

The educational advantages of the American hospital today are unquestioned. Physicians and nurses alike are prompt in complying with recommendations made in various medical colleges in regard to hospital training. An internship is necessary. The public today regard the hospital as collaborator of the medical school in the education of the physician, the intern, and visiting staff, and, indirectly, other physicians and the public. The value of the hospital experience goes without gainsay—physicians do better work. The education is on a higher plane today, when instructors of probationers, lecturers, etc., are paid. As 13 percent of the sick are treated in hospitals, the dissemination of knowledge is greater, and the social service department proves an invaluable adjunct in its instruction to mothers.

Patent Venetian Shelters for Outdoor Treatment of Tuberculosis. Sanitary Record and Municipal Engineering, January 23.

An illustrated description is given of such a device, and the claim is made that it can be cheaply constructed, though well made and durable. The framing is of 2-inch by 2-inch prepared timber, properly jointed and slotted into the floor at the bottom. The floor is to consist of ¾-inch boarding securely fixed to strong 2½-inch bearer joists. The sides and ends are match-lined to a height of 2 feet from the ground with strong ¾-inch deal-boarded match lining, securely fixed to frame. A door is at one end. The roof is made in four sections, with double top piece for ventilation, and is covered with tarred felt. The openings between the frames are filled in with Venetian blinds with patent rollers at foot, slotted into posts to secure the blinds when down. The price for a single shelter for one bed is £7 15s, and for a double shelter it is £12 12s. G. W. Beattie is the inventor.

Notes on the German Colonial Hospital at Dar-es-Salam (Notes sur l'hopital colonial allemand de Dar-es-Salam). Laurent Moreau, Revue d'hygiène, Paris, 1913, XXXV, No. 10.

The hospital at Dar-es-Salam, capital of German East Africa, is, from a hygienic point of view, a model of its kind. It was built in 1890, and is the prototype of German colonial hospitals. The hospital stands on the seashore and joins the botanical garden. It consists of a central building, or the hospital proper, and two isolated structures containing tthe kitchens and laboratories.

The central building consists of two stories. The first story contains the administration hall, drug store, waiting room, consultation room, a fine well-ventilated operating room, and rooms for the physicians and nurses. One wing is entirely devoted to malaria. In the second story are the sick rooms. Only Europeans are admitted. Patients paying 7 rupees per day have separate rooms, those paying only 3 rupees are placed in wards. All beds have mosquito nettings, and the open galleries are protected against mosquitoes by wire screens.

Hospital Corps. Report of the Surgeon-General U. S. Army for the fiscal year ended June 30, 1913.

The authorized strength of the corps is shown to be, sergeants, first-class, 362; corporals, 50; privates, first-class and privates, 2,800, making a total of 3,512 men. The number of sergeants, first-class, is fixed by law; the total strength of the hospital corps, and the number in various other grades is determined by executive order. It has been assumed that when troops of a garrisoned station take the field, the entire hospital corps detachment at the post is available, but such is not the case, as there remains not only the enlisted sick, but families of the officers and enlisted men, sufficient in number to demand that a working hospital be maintained. The surgeon-general calls attention to the great deficiency in the number of the hospital corps. He considers no action by Congress necessary, since the president is empowered to provide a sufficiently numerous corps, which shall not be counted as part of the strength of the army. He believes that if the secretary of war will recommend to Congress a reorganization of the hospital corps, it will facilitate the recruiting of suitable men for the service.

Hospital Relief for Rural Districts. Chas. Wardell Stiles. Public Health Reports, Washington, 1913.

Through the courtesy of the Atlantic Coast Line and cooperation of Dr. Geo. Thomas, of Wilmington, N. C., Dr. Stiles, of the Public Health Service, is engaged in research work of the rural districts. He is considering the possibilities offered by hospital trains in furnishing the much-needed medical and surgical facilities to those living at a distance from cities and towns. In his paper the author contrasts the opportunities offered the humblest and poorest resident of the city with the limitations of a great mass of suffering, ignorant residents of rural districts who are unable to obtain medical treatment. While the State Board of Health and State Board of Education are awakening to the soil pollution and care of milk, and doing much to relieve the situation, the greatest evil of medieval sanitation still exists. He would suggest as a solution to the problem the free hospital train—a traveling hospital, equipped with medical aid, including the district nurse. The opportunity he considers an excellent one to those inclined to place a welfare endowment, as the great mass of people in question will never receive proper medical or surgical relief unless it is taken to them. They must have instruction along health lines. The hospital relief for rural districts is a suggestion of welfare work in a line not existent at this time.

A Psychiatric Observation and Transfer Station for Children (Eine psychiatrische Beobachtungs- und Uebergangsstation für Kinder). K. Rupprecht. Hygiene, Berlin, 1913, III, No. 4.

The district of Upper Bavaria has established, at an expense of $250,000, near the city of Munich an institution for defective children. Until the present time it was customary in Bavaria, as well as in other parts of Germany, to send psychically abnormal children without discrimination to any of the existing institutions for the feeble-minded or idiots. But gradually the idea gained ground that this was a wrong procedure, and that all feeble-minded, idiotic, or epileptic children should first be sent to an institution where they could be observed and studied by psychiatric specialists before a final disposition as to the institution to which such children should be sent is made. In such an institution it is possible to separate the children according to their mental capacity, the kind of disease, and method of treatment.

The Children's Home at Munich fulfills all the modern requirements of psychiatry, hygiene, and pedagogics. The building contains two stories. The first story has room for 25 boys, the second story for the same number of girls. Only children under 15 years are received. The nurses are selected with the greatest care, and only such are chosen as have had great experience in handling children. Devotion to the work and kind treatment of the children is the chief requirement. For the psychial and pedagogical observation an experienced teacher is employed.

Venereal Disease—An Australian Experiment. Hospital, London, 1914, LV, 274.

Measures have recently been adopted in Victoria for the control of venereal diseases. The first step was to make syphilis notifiable in the Melbourne metropolitan area, though no penalties enforced it and no names were given. In the course of a year 5,500 notifications were made, three-fifths of which were by private practitioner, the remainder by hospitals. It was calculated that this number was 0.5 percent of the population, a much lower figure than was expected. The Government provided 24 free beds for men at the Alfred Hospital and 20 for women at the Women's Hospital. When it became known that the treatment was in a general ward, and that this class of patients would be dealt with the same as patients in the other wards, the first difficulty in filling the beds gave way to a steady demand. Another means of popularizing the arrangements was the establishment of a night clinic at the Alfred Hospital. The general effect of these experimental arrangements was a greater interest in the subject, with the result of securing early diagnosis and treatment. The practical importance of these results needs no emphasis, but indirectly they have probably paved the way for a bill now before the Victorian Legislature which proposes adequate free treatment, the prohibition of unqualified treatment, and making the transmission of the disease knowingly a penal offense. These proposals will sound less startling when the first prejudice has been removed by a public attempt at experimental measures.

Hospital Construction from the Medical and Hygienic Point of View (Anforderungen an Krankenhausbauten in ärztlicher bezw. hygienischer Beziehung). W. Prauznitz. Hyg. Rundschau, Berlin, 1913, XXIII, No. 17.

In the future there will be an increasing demand for hospital beds, and many more hospitals will be built. To reduce the increasing costs of construction and management as much as possible, it would be desirable to erect, besides the hospitals for acute and grave diseases, institutions for mild and chronic cases, which would not require such great expenses in construction and management as the ordinary hospitals.

The author discusses the question of the corridor and the pavilion system. He thinks that, though the spread of infection is more easily avoided in the pavilion system, it has so many disadvantages that a combination of both systems is preferable. The pavilion system is more expensive on account of the greater difficulties in attending the patients. To reduce expenses, the patients get frequently inferior service. The parking and gardens in the pavilion system are inferior to those of centralized hospitals. For these reasons we find in many hospitals "pavilions" of several stories, with numerous wards and corridors, and which are in reality no pavilions. The corridor system, under an efficient management, has no disadvantages with regard to the patients. To avoid in-

fection, the number of stories containing patients should be limited to two, and the wards should not contain more than 15 or 20 beds. Central hot-water heating is preferable to all other methods of heating. In planning a hospital it is desirable that the physicians should be consulted from the very beginning, and their views and advice given due regard.

The Children's Hospital, Sunderland. Hospital, London, 1914, LV, 293.

This hospital occupies a site four acres in extent, facing south, and well sheltered from prevailing winds. The building is in the form of an E, but with the middle stroke projecting at the back and with two smaller projections on the same side. The ward blocks have their long axes very nearly north and south, and are one story in height. Each ward contains 20 beds. The sanitary offices and bath rooms are placed in projecting wings at the south ends of the wards, and at the entrance is a two-bed ward, ward kitchen, store, cupboards, and lavatory. On the south side of the corridor is a small ward for the isolation of doubtful cases. It would have been a great improvement if the sanitary offices had all been grouped together at the north end of the ward, and the bath room placed next to the large ward, with direct access therefrom. This would have economized the plumbing and hot water services, and have left the south end of the ward free from obstruction.

The operation suite comprises, besides the theater, which has a semi-octagonal end, an anesthetic room, a splint cupboard, and an x-ray room. There is apparently no room for sterilizing, for washing-up, or for the surgeons to prepare for work. A somewhat unusual feature is a recreation hall, which occupies a corresponding position to the operation block on the west side of the central block. The building, as it stands, provides for 50 beds, but it can be extended to accommodate twice that number. Plans of the hospital are given in the article.

Opening of the New Third General Hospital at Hamburg-Barmbeck (Die eröffnung des neuen, dritten allgemeinen Krankenhauses in Hamburg-Barmbeck). Ruppel. Ztschr. f. Krankenanstalten, Leipsic, 1913, IX, No. 49.

The city of Hamburg has now three great general hospitals, the Eppendorf Hospital, the St. George's Hospital, and the Barmbeck Hospital, which was recently opened. These three great hospitals represent the progress in modern hospital construction. The Eppendorf Hospital was built after the war of 1870, and is a fine type of the pavilion system. But the extreme decentralization represented in this hospital had to give way to more modern views. Not decentralization, but a more rational isolation system in the interest of a speedier cure and also from humane considerations, is the modern requirement of hospital hygiene. St. George's Hospital, built in the late 90's, marks a great step toward the realization of this principle. Though constructed in general on the plan of the Eppendorf Hospital, it has avoided the extreme decentralization.

The Barmbeck Hospital is in all respects superior to the two older hospitals, and marks a great progress in hospital construction. The aim was not to build a certain number of more or less similar pavilions for a certain number of patients, but to erect a series of buildings for special diseases and to adopt these buildings to the individual methods of treatment of the various classes of diseases. It is true, the pavilion system has been retained, but these separate structures are to a certain extent independent hospitals in so far as they serve a certain class of diseases, and they have a more or less independent management, as is necessary to carry out efficiently the special therapeutic measures. The Barmbeck Hospital, therefore, does not consist only of pavilions, but the system of the corridor structure and the mixed system of the corridor pavilions is also represented. The hospital comprises in all forty-six buildings, some of which are quite extensive structures. The whole area amounts to 190,560 square meters, 34,000 of which are taken up by the buildings, and thirty-three buildings are exclusively used for the patients. The number of beds is 1,750.

The Helpful Unfit. Boston Med. and Surg. Jour., 1914, CIXX, 140.

Attention is called to the recent movement to encourage partly disabled and convalescent people in hospitals and asylums to support themselves. Supplies worth many thousand dollars were produced the past summer by patients on the hospital farm at the State Colony, Gardner, Mass. A pottery established within the past two years in connection with a hospital on the Pacific coast has enabled tuberculosis girls to pay their expenses while under treatment and to learn a trade. Five patients in an eastern hospital last year made and sold $6,000 worth of pottery. At the Bedford Sanatorium for Consumptives of the Montefiore Home in New York vegetable gardening is done by the patients sufficient for the needs of the institution. Feeble-minded patients under Dr. Fernald and Dr. Tuttle at the schools and hospitals at Waverley, Mass., under Dr. Luehr at the Haus Schoenen Hospital in Berlin, Germany, and in other places where craft work has been instituted, have made an excellent showing. In this connection should also be mentioned the work done by Dr. Herbert J. Hall, of Marblehead, Mass., in the treatment of patients through systematized work.

The problem is to find and organize the sick and discarded workers, and, by grading work to their ability, restore to them their self-respect and their sense of having a recognized place in society. The work of the physically and even the mentally handicapped may be of finer quality than that of the average so-called well person, and such work is an asset that should not be lost to society.

The Place of a Central Public Laboratory Clinic in Hospital and Private Practice. David Walsh, Hospital, London, 1914, LV, 281.

By a laboratory clinic is meant an institution that combines the work of a clinical laboratory with the actnal administration, when necessary, of technical methods of treatment, such as those by vaccines, intravenous medication, etc. The rapid advances of medical science have necessitated the use of many complicated and costly methods of diagnosis. One has only to compare the practice of ten or fifteen years ago with regard to enteric fever, tuberculosis, malaria, and venereal diseases to realize how vital is the help of an expert pathologist in order to form an accurate diagnosis. The increased cost and complexity of modern scientific methods involve serious economic results. The voluntary medical charities, the smaller hospitals unprovided with clinical laboratories, and the panel physicians, working under the insurance laws, are therefore in the position of either furnishing their patients with medical service that is, scientifically speaking, behind the times, or of sending this special work at great cost to a private laboratory.

Walsh suggests, therefore, the establishment of a cen-

tral laboratory and clinic, intended primarily to supply the needs of the metropolis, but capable of wider extension to the provinces later. To this institution all voluntary hospitals, panel and nonpanel doctors, would be entitled to send patients for all kinds of clinical laboratory investigations. In addition, the institute would, at the special request of the medical men concerned, provide and administer vaccines, tuberculin, salvarsan, and other highly specialized and often costly remedial agents. The immediate result of the establishment of a central laboratory of this kind would be to bring under the best modern treatment a large amount of disease that is now being dealt with more or less inefficiently. The funds necessary for its support would be sought from the philanthropic public, the small hospitals which would benefit from the laboratory clinic, and the great distributing hospital agencies, whose burdens would be decreased and their efficiency increased by the clinic. A subsidy from the state would be asked for on the ground that the efficiency of the panel system would be increased, and small fees would be charged patients who were able to pay.

Recent Methods of Isolating Patients with Infectious Diseases, with Special Reference to Experiences in England (Die neueren Methoden der Isolierung ansteckender Kranken, insbesondere nach den Erfahrungen Englands). C. Prausnitz. Deutsche Vierteljahrsschrift f. öffentl. Gesundheitspflege, Braunschweig, 1913, XLV, No. 3.

England was the first country to establish separate hospitals for infectious diseases. Every city and even smaller communities possess now their own isolation hospital. The general hospitals are almost all private institutions, and receive only exceptionally patients with infectious diseases. These isolation hospitals are excellently furnished and managed, and enjoy great confidence among the people. The hospitals for infectious diseases are constructed on the pavilion system. The buildings contain either one or two stories, and are connected by open or covered coridors. As a rule, there are separate pavilions for the various infectious diseases. There is no difficulty in isolating scarlatina, diphtheria, and typhoid fever, but the system presents difficulties in other ways. Many patients are received with an erroneous diagnosis of an infectious disease. In 1911 the number of such patients amounted in the London hospitals to 10.6 percent of the whole number. Many cases are also received with a mixed infection. These conditions have led to widespread secondary infections. Of late years much attention has been paid to the solution of this difficult question. Three systems have been evolved by the initiative of the English hospital physicians—the box system, the barrier system, and the bed isolation system.

In the box system a number of single rooms separated by a corridor are established. The boxes are completely shut off from the corridor. Between the boxes there is a partition about 5½ feet high. The space above the boxes serves for aeration, but this space takes place only through small holes in the upper window panes. The air in the lower part of the box is expected to be renewed through osmosis from the space above. The author thinks that this system may be efficient in some hospitals and under certain conditions, but that it will not suit in all hospitals, because nursing is too complicated under such conditions and the expenses are too great.

In the barrier and bed isolation systems no attention is paid to the possibility of transmission of infection through the air, but contact infection is combatted in a most efficient manner. The barrier system was perfected by Biernatski, the meritorious director of Plaistow Hospital. He assigned the patients, as much as possible, according to their disease to the various pavilions. Then, if a complication occurred at any station—for instance, a septic scarlatina case at the scarlatina pavilion, or an intercurrent disease as diphtheria, measles, whoopingcough, etc.—a red cord, the symbolic barrier, was placed at the foot end of the bed, which signified to the nurses, that the patient behind the barrier is to be kept strictly isolated from the other patients. While all other patients may freely walk about, such a patient cannot leave his bed, and the nurses attending him have to observe special precautions. This simple system has proved a great success, and cases of transmission of infection are almost unknown.

Rundle and Burton, in Liverpool, went a step further and introduced the bed isolation system. While in the barrier system usually only one or two patients have to be isolated in a ward, Rundle and Burton intentionally turn one ward into a mixed station of all kinds of complicated and uncomplicated, infectious, and noninfectious cases. The construction of the pavilions of the Liverpool hospital is extremely well adapted to this system, and the highly educated nursing material is another advantage. So successful has been this system that during the last two years only two cases of infection—two scarlatina cases—have occurred.

The experiences in England seem to prove that patients affected with various infectious diseases may be treated in the same ward with almost as great safety as in the box system if the hygienic and disinfecting measures are thoroughly carried out. The strict isolation which many writers demand is not at all necessary. The greater expenses caused by special isolation pavilions and the employment of special nurses are thus avoided if this new English system proves successful on a large scale. It is true, in Germany the hospital nurses are not equally well trained as those of England, but an improvement in this respect is noticeable from year to year, and the various disinfection schools in Prussia turn out an increasing number of nurses specially trained for nursing infectious diseases.

$2,000,000—WHO WANTS IT?

A College Refused It, and the People Oppose Its Use for New Hospital.

There is a fund of $2,000,000 in Philadelphia that no one seems to want. The fund was left as a bequest by the late Miss Anna T. Jeanes to Swarthmore College, provided the college would cut out all athletics. This the college trustees declined to do, and refused the gift. Now it is proposed by the trustees of the estate to build a hospital for the Society of Friends, or Quakers, to which sect Miss Jeanes belonged.

The newspapers of Philadelphia, notably the *Record*, are opposing the hospital on the ground that the city is in far greater need of funds to support the hospitals already in existence than of another hospital, which will merely add to the number of those too meagerly supported. The *Record* finds that a scandal already pervades the state due to the struggle of the hospitals for state aid and the scrambling competition of those institutions that must get money from one source or another to merely keep up their existence. It thinks that Miss Jeanes' $2,000,000 could be much better used to help some of the present deserving institutions.

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New Emergency Hospital.

A campaign to raise $300,000 for a hospital at the national capital was commenced some months ago, and one-half the amount is an accomplished fact. The board of directors of the Emergency Hospital will reopen the fight for the balance. The proposed new building will occupy a site on New York avenue between Seventeenth and Eighteenth streets, N. W., and will be an acquisition to the Washington skyscrapers. It will be nine stories, occupying exclusive grounds on New York avenue. There will be an abundance of air and sunlight. Desirable features will be the nurses' home, an expensive x-ray apparatus, and other appliances used in surgical work.

The New Surgeon-General.

The president's selection of Colonel Wm. C. Gorgas to be surgeon-general of the army, to succeed the late Brigadier-General Torney, has met with favorable report from the Congress, and brings to that office a sanitary officer of international reputation. With Major Robert E. Noble, Colonel Gorgas is now at Johannesburg, South Africa, making a study of needed sanitary improvements in the diamond fields, having been granted, at the instance of the British Government, four months' leave of absence for the purpose. Until recently Colonel Gorgas has been in charge of sanitary work in the Panama Canal Zone. He will succeed to the rank of brigadier-general, and assume his new duties on his early return from Panama.

A wealthy citizen of Denver is to build and endow a home for the aged poor as a memorial of his recovery from a dangerous illness.

FOREIGN CORRESPONDENCE

LETTER FROM PARIS.

Method of Examination for Place on Paris Hospital Staff —Individualism Prevails—Relationship Between Doctor and Patient.

(Continued from February issue.)

Paris, February 10, 1914.

In my last letter I mentioned the relation of the University of Paris to the hospitals, and stated that certain services in certain of the hospitals were given to the university. Moreover, teaching may be done independently; that is, an agrégé (practically corresponding to an assistant professor) may obtain by examination a nonuniversity hospital position. If he does, there is no objection to his doing clinical teaching in his wards. Or a man in no way connected with the university may give instruction if he can find students who wish to follow him. The Assistance Publique throws the hospitals open to teaching if the men who win places on the staff choose to teach.

Fig. 1. Charité Hospital.

Every man on the staff of a Paris hospital from chief to extern has to win his place by competitive examination. The personnel includes physicians, surgeons, obstetricians, ophthalmologists, oto-rhino-laryngologists, chiefs of laboratories, and interns and externs.

Unfortunately, the chief of service cannot build up his staff as is done in Germany. All these men are selected by the *concours* given by the Assistance. The rules governing the concours are interesting. I quote at random from the copy of the code I have before me:

Externat. The applicant must have finished four inscriptions in the medical school of the state, and must furnish certificates to the effect (a) that he has been born, (b) that he has been recently vaccinated, and (c) that he has lived a respectable life and has no bad habits. This latter must be certified to by the mayor of the commune in which he resides. Provided he has not committed mur-

der, arson, theft, or been convicted of high treason, such a certificate is obtained without difficulty. For his practical examination the applicant is asked a question in descriptive anatomy. He has five minutes to think over this question and then five minutes in which to answer it. He next is asked a question in either pathology or minor surgery under the same conditions. Following are a few of the questions recently asked: Describe the median nerve; give the technic of phlebotomy; describe the portal vein; give indications and technic of stomach lavage; technic of an autopsy.

The interns are chosen only from those who have won externships. Eight years must have elapsed from the time they matriculated in medicine before they are eligible for this examination. They must show certificates of their qualities as externs and of their scholarship in the medical school. This examination includes a written test on a subject in anatomy or pathology, for which two hours are allowed, and also an oral test, for which ten minutes are allowed for reflection and ten minutes for answer of the question. "Signs and diagnosis of tetanus" was one of the questions asked recently in the written quiz.

The selections of laboratory chiefs, physicians, surgeons, and specialists are conducted in much the same

Fig. 2. Salpetrière Hospital.

manner, only with greater elaboration. The applicant for position of physician must submit to a written test on a clinical and a pathological subject, a clinical examination of an actual case, and a theoretical oral examination. The men not eliminated by these tests are then given a consultation (diagnosis, prognosis, and treatment) on an actual case. Then all but three men are eliminated for each place, and a final examination given, on which the candidate is allowed twenty minutes to examine his patient and fifteen minutes to tell the jury about it.

It is needless to say that there is great objection to this method of choosing men for these hospitals. The only thing that can be said in its favor is that it *might* be worse. Little can be added to the critical discussion given of this subject by Abraham Flexner.[1] This author, by the way, sizes up the clinical situation in France as follows: "Analytic study has worked out the basis on which applied medicine rests. While bedside observation has lost nothing of value, new tools have been forged, new technic devised, by which order, intelligence, increased certainty, and something more nearly approaching completeness have been rendered attainable. Of this movement, French clinical training takes no adequate account."

Whatever general objection we may assume in the great depths of our knowledge to this system of which Paris makes use for manning its hospitals, we are forced to admit that it has not killed individualism. As a visitor to many of these institutions, I have been struck with the capacity and energy of these men, many of whom, as in the German hospitals, are men of international fame. I have never seen anywhere, in Germany or

Fig. 3. Lariboisière Hospital.

England or in America, such careful attention given to patients by the chiefs of staff as is done here in Paris. I have never seen more careful and exhaustive physical examinations made anywhere. I have never seen more intense personal interest exhibited in the handling of the sick than in these public hospitals.

Another thing. I have never seen here in Paris what is so common in Germany, and that is the lack of human relationship between doctor and patient. In Germany a patient is a "case"—a disease entity, not a human entity. In Paris the patient is a human being, with a soul as well as a body. The human side of medicine is constantly cropping up even in these hospitals for the unfortunate poor. To illustrate my point, let me recount a little incident that I saw at the Pitié one day. I had been attending Dr. Babinski's clinics for a time, and he had been working on a little girl, about 9 or 10 years of age, who had lost her ability to walk. And here I might say again, if she had been the daughter of the president of the French Republic, he couldn't have worked harder on the case. Finally he succeeded in getting her on her feet,

Fig. 4. Laénnec Hospital.

taking a few steps at first, and gradually regaining her full power of locomotion. And so the day came for his big clinic. There were several hundred students there and he talked about the case, and finally turned to his assistant and said, "Please send in the patient."

Then across the floor of the amphitheater, marching like a soldier, and all dressed up in her best white frock,

[1]Medical Education in Europe. A report to the Carnegie Foundation for the advancement of teaching.

came the little girl. In her hand was a great bouquet of flowers, and straight up to Babinski she marched, and with a blush and neat little bow placed the flowers in the doctor's hand. Babinski blushed like a schoolgirl, and leaned over and pinched her gently on the cheek and said something that I couldn't catch. But the students just filled the place with applause for a moment, after which everybody pulled themselves together and the highly scientific medical lecture went on.

R. L. THOMPSON, M. D.,
Professor of Pathology St. Louis University School of Medicine.

LETTER FROM THE ORIENT.[1]

Filipino Girls as Nurses—Japanese Nurses—Why Japan Hospitals Feed Meat—Hawaii Has Hospital for Every Hacienda—Per Capita Hospital Costs in China.

Manila, December 19, 1913.

I have booked to sail for home via the Orient and Europe on February 20, 1914. My itinerary, as mapped out to date, permits me to visit awhile in China, down through the Straits Settlement, India, one or two cities in Arabia, and a short trip through Egypt, landing at Trieste sometime the latter part of April. It is my intention to spend considerable time in the German hospitals, and I will no doubt visit other similar institutions in Europe.

I note what you say regarding the Japanese nurse, and frankly am compelled to differ with you on this point. In the first place, let me ask, from what walk of life is the nursing material selected? Surely not from the highly educated. Do the young Japanese women of social standing take up nursing as a profession? I think you will find that they do not. Both of the above questions as regards the Filipino nurse may be answered in the affirmative, which, first of all, would insure at least more promising material than is available in Japan. If my memory serves me correctly, the Japanese institutions, until very recently, followed the old German idea, and, with all due respect to the training schools of both Germany and Japan, I am inclined to think that it is not so very long ago that the so-called nurses of the above mentioned countries would be better compared with our "nurse maids" of the states rather than with the highly trained product of our training schools of today. The course of instruction offered by the Philippine Training School for Nurses is probably not excelled by any training school in the world, and I do not call to mind any school in the United States provided with better facilities for teaching than are found here. When you realize that the course in this school covers a period of three and a half years, with a six months' post-graduate course; that all lectures and laboratory work are given by high-salaried professors of the University of the Philippines in the magnificently equipped laboratories of that institution; that the preliminary education of all candidates must be the equivalent of a high school course, and that many of our pupils are normal school graduates, you will probably agree with me that the graduate Filipino nurse ranks next to the American, and is, without doubt, superior to the Japanese.

In answer to your query as to the reason for the meat diet in Japanese hospitals, permit me to state that the custom has prevailed for a considerable length of time, even though the necessity for it has been only recently known. You will recall that most of the persons admitted to hospitals in the Orient, and especially in Japan, were either suffering directly from beriberi, or at least that disease was a complication of possibly some other ailment. The Japanese physicians found that by feeding a meat diet the patient seemed to make a rapid recovery, or at least was greatly benefited, and consequently the habit was formed. It is only very recently that they have known the reason why the meat diet was essential, and, now that they are enlightened, I should not be sur-

[1]THE MODERN HOSPITAL wrote to Dr. Woodbury last fall and arranged for a series of letters covering his itinerary from Manila to Washington. This is the first of these letters.

Part of the graduating class, 1912, Philippine Training School for Nurses, Philippine General Hospital.

prised if some other less expensive article were substituted—for instance, the extract of rice polishings, "tique tique," would undoubtedly serve their purpose. I do not mean to infer that meat is a specific for beriberi; it simply furnishes a proteid element which is lacking in polished rice, and, of course if meat forms the main portion of a diet, rice is naturally eliminated from the bill of fare. It is practically admitted now, at least by the local authorities, that the consumption of "polished" rice is responsible for the above mentioned disease. I have seen this fact demonstrated on more than one occasion, and the health authorities are at present attempting to create legislation which will put a high tax on the polished article, thus compelling the poorer classes, who, by reason of poverty, confine their diet almost wholly to rice, to use the unpolished product. All Government institutions are compelled by law to use the unpolished rice.

Referring to your comment regarding the hospitals of China, I consider it quite apt, and in keeping with my personal information as to the hospitals of that country. Only recently I was called upon to furnish some of the plans for a hospital for the Harvard Medical School of China, located at Canton, and in this way I became more or less familiar with the class of organizations which you mention. I happen to know that the per capita cost per day is somewhat in excess of the figure you mention (15 cents per day per patient), but I think you will find that the physicians, many of them missionaries, draw their salaries from one fund, while the upkeep cost of the hospital is contributed from another, although the entire amount is undoubtedly provided by certain religious organizations in the states. I shall carefully follow out your suggestions during my stay in China, and will be glad to furnish the facts as I find them.

I made only a brief stop at the Hawaiian Islands, but have since had occasion to look into the hospital conditions in that field. I can see no reason for a large hospital located at any one spot in the islands, unless of course someone wished to erect a "monument" of some sort. Every "hacienda" or plantation, no matter how small, has its own hospital; frequently two or more of them combine, but in either event the plan takes care of the large working class—not only the workers themselves, but the members of their families. A small hospital in Hononlulu might be a good thing, but I can see no reason for any large, pretentious affair.

At present I am gathering data and photographs with which I hope to work up an aritcle on social service work in this part of the world and in the countries through which I shall pass. Our so-called social service here at present confines its energies to obstetrical work. Very recently, however, the Government appointed a committee to investigate infant mortality, and, to properly carry out this work, it was necessary to go rather deeply into the social conditions and home life of the people. This report will not be ready for publication for some time, but, from my personal knowledge of some of the findings, I believe that it will create a sensation in the minds of any interested hospital workers. I assure you of one of the first copies from the press, and think you will find it without doubt, one of the most complete works ever written on the subject.

WILEY E. WOODBURY,
Superintendent of the Philippine General Hospital.

Dr. W. R. Newton has recently opened a $40,000 hospital at Cameron, Texas.

LETTERS TO THE EDITOR

Blunders of a Board.

To the Editor of THE MODERN HOSPITAL:

I am inclosing the following letter sent out to architects, and which seems to be self-explanatory:

"To Architects: Gentlemen—In regard to the general requirements for the proposed Old People's Home, to be located near Decorah.

"1st. Competitive drawings to be in hands of the committee by noon of January 30, 1914.

"2nd. The location of building will be about three and a half miles southwest of Decorah, near the Milwaukee railway, and will be located on a wooded rise of ground, facing east. In the foreground will be a valley covered with burr oaks and elms.

"3rd. The building to be of brick and stone, and to accommodate 50 wards and the necessary help.

"4th. The designs submitted must be in view of an expense of not to exceed $25,000. The committee have in view that the foundation be made of local limestone.

"H. C. HJERLEID, Decorah, Ia."

I hardly need analyze this for you from an architect's standpoint. First of all, no architect who is competent to make drawings for a hospital would submit plans to an unknown committee, which is probably not qualified under any circumstance whatever to judge of plans for a hospital.

Secondly, architects who are doing this class of work, and are thoroughly conversant with it, have no time to go into competitions, especially under the conditions as laid down in the fourth of these requirements, to say nothing of the second and third. I think it rather puerile to expect an architect to design a hospital and give as the requirements, as given in the second condition, that the location of the building is to be about three and a half miles from a city, near a railway, on a wooded rise of ground facing east, and to go so far as to make it a part of the requirements of an up-to-date and modern hospital in every respect that the valley in front of the hospital will be covered with burr oaks and elms.

If it were not so sad, it would be quite laughable, but I can see no joke whatever in a thing of this sort. The third requirement embodies the entire needs for the hospital—that it is to be of brick and stone, and to accommodate 50 wards and the necessary help. I take it for granted that the gentleman who wrote the program knew what they wanted for the exterior of their building, but what they mean by 50 wards and the housing of the necessary help is beyond my comprehension. And, to make the matter worse, the fourth of the conditions herewith given is that the entire hospital, inclusive of 50 such wards, which might mean 50 beds or 50 private rooms, and the housing of the necessary help, which would probably mean 10 more rooms at the least—must be bought for not to exceed $25,000.

Even if the hospital were built of brick and stone on the exterior, and the interior made of ordinary construction, it is doubtful in my mind whether even the exterior alone of this building, with the cheapest sort of interior construction, could be done for the amount they wish to expend. I should say, as a matter of judgment, that at the very lowest cost, with the strictest economy, such a hospital could not be put up under any circumstances whatever under $75,000, and it would probably be nearer $100,000, and this despite the fact that the committee has in view that the foundation is to be made of local limestone.

Cannot our magazine do something to discourage this sort of procedure? Either it is a lack of ordinary busi-

ness ability, complete ignorance, or a cocksureness on the part of such committees that would amount alone to an assuming omnipotence. It is frightfully discouraging to even have the idea presented as it is here, taking, as it does, the viewpoint that a hospital or home is a building that can be built for immeasurably less than the cost of even a factory building.

The probable difficulty—or, rather, the cause of such procedures as this—has been the fact that the country architect, and sometimes the city architect—more is the pity—has willfully misled boards, or in his woeful ignorance has made statements to them, which give them the idea that a hospital is a building in which all you have to have is a place to stick the patients, whereas as a matter of fact that is the least expensive of the entire hospital structure.

In a hospital of this size the amount of money that these people wish to expend is not even sufficient to take care of the working and administrative departments, inclusive of the operating rooms, toilets, heating plant, and like departments, much less the putting up of an entire building for the purpose.

MEYER J. STURM.

COOKED MILK CONTROVERSY IN ENGLAND.

Pasteurized, Desiccated, and Sterilized Infant Food on Defensive—American Methods Cited in London Lancet.

Great Britain is in the midst of a most active controversy on the subject of pasteurized and boiled milk in child feeding. Dr. Ralph Vincent, in the London *Lancet*, claims to have demonstrated that cooked or pasteurized milk (it made no difference which) was responsible, not only for many of the well known gastrointestinal infections of childhood and infancy, but for many "mysterious diseases" not otherwise explainable.

Dr. Eric Pritchard, of London, replies to Vincent through the same medium on January 24, taking the pasteurized milk side of the controversy. He cites a number of infant commissions and schools for mothers to show that infant mortality has materially dropped since desiccated and cooked milk were substituted for raw milk. He also cites a paragraph from Prof. Porcher's recent book, "Le Lait Desseche," as follows:

"At a certain infant clinic in Belgium the infant mortality rate was 260 per 1,000 in 1901. In 1903 sterilized milk was introduced, and the rate fell to 150. In 1907 trained health visitors were employed, and the rate further fell to 60 per 1,000. In 1908 dried milk was substituted for sterilized milk, and the rate fell to 34 per 1,000."

Our own tendencies in this country regarding raw versus "cooked" milk are given prominence in Dr. Pritchard's defense of the newer methods. He says:

"In America, the home of certified milk, not only are the original and most fervent pioneers of this movement now converted to pasteurization, but they are among the most active agitators for the pasteurization even of certified milk of the highest grade."

Dr. I. B. Muirhead has joined forces with Vincent against pasteurized or cooked milk, and the controversy wages merrily in the "Letters to the Editor" columns of the *Lancet*.

By recent orders from the secretary of war, Fort McHenry will be converted into a hospital for immigrants who need treatment on their arrival. The immigration service will be permitted to furnish the necessary equipment. The secretary's decision will be a great improvement in the present hospital facilities of the immigration station at Baltimore.

NEW INSTRUMENTS *and* APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

Martel Electrically Driven Bone Surgery Engine.

During the past few years bone surgery has commanded a great deal of attention on account of the work which many of our surgeons have done in connection with transplants, skull trephining, etc. As a result, several new types of apparatus and a great many instruments have been devised to meet these new requirements, such as forceps, burs, drills, saws, etc., which are mechanically driven, and still others in the form of burs and drills operated with a hand brace. There has, however, always been the desire on the part of surgeons for something in the way of apparatus which would cut cleanly and quickly. This is particularly true in cranial operations, where the saving of time is an important factor, as considerable shock is produced by the use of any instrument which is operated slowly, such as the cranial forceps, chisels, gouges, etc.

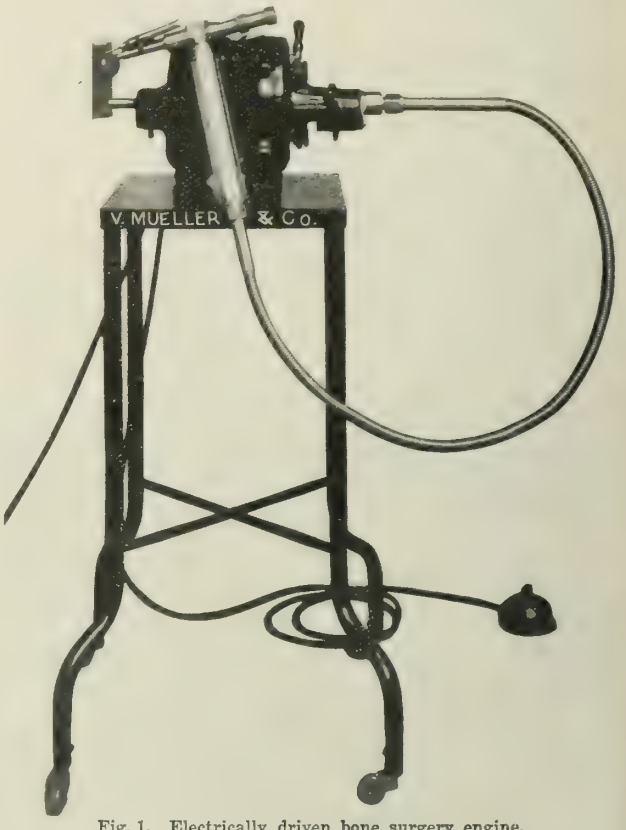


Fig. 1. Electrically driven bone surgery engine.

Several types of electrically driven engines have been made, but in most of them certain fundamental defects existed which prevented them from becoming very popu-

lar. First of all, a bur, drill, or saw, when electrically driven, should be under the perfect control of the operator at all times, because, should the cutting instrument become caught, or should too much pressure be used in removing a cranial flap, the result might prove disastrous.

Dr. Th. de Martel, of Paris, has designed a very successful electrically driven engine which has certain features entirely new in the matter of safety. The engine was first constructed with the idea of using it entirely for cranial work, but additions to the equipment have been made, so that it is now adaptable to all bone surgery. An electric motor of one-quarter horse-power drives a flexible shaft, the shaft being much heavier than the type heretofore used for similar apparatus. This flexible shaft drives a geared handpiece, the various attachments being used with the handpiece. A foot switch is supplied for controlling the motor. The unique feature is the automatic stop which operates the trephine in making a cranial flap.

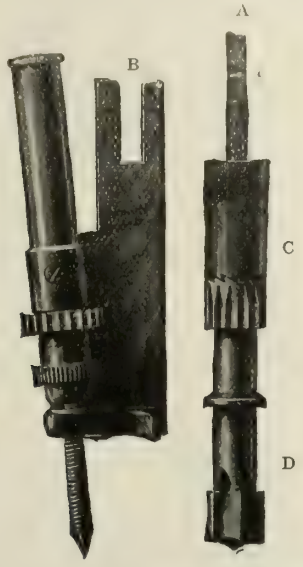


Fig. 2. Parts of the trephining apparatus.

Fig. 1 shows the electrically driven bone surgery engine, and Fig. 2 shows quite clearly the construction of the trephining apparatus. The shank of the trephine A (Fig. 2) passes into the handpiece. The guard B (Fig. 2) is then attached to the handpiece, making the assembled instrument as shown in Fig. 3. Attached to the guard is a threaded spike, the purpose of which is to prevent "creeping" of the trephine when first started. This spike has a back gear attachment so arranged that as the trephine makes its entrance into the skull the reverse thread of the back gear takes up just sufficient space to leave the same pressure on the spike, regardless of the distance the trephine has entered the bone. The instant that the trephine has punctured the skull, the entire arrangement automatically stops by means of a toothed clutch, which is forced apart by a coiled spring inside of the barrel C (Fig. 2); thus, by separating the revolving part of the instrument C and the now stationary part D a distance of approximately ½ mm., the engine is stopped, regardless of the amount of pressure the operator may exert upon the handpiece.

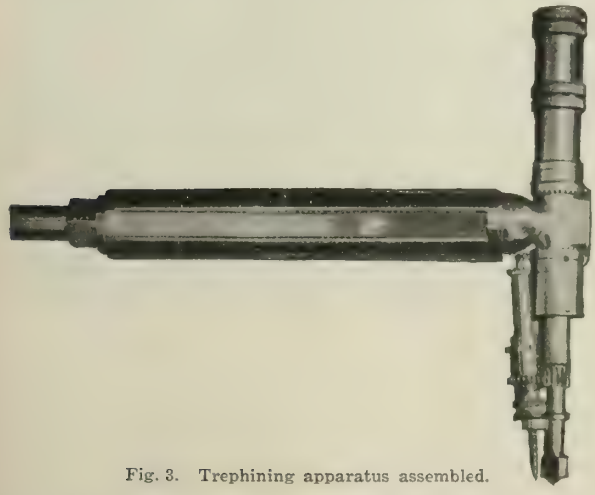


Fig. 3. Trephining apparatus assembled.

Fig. 4. Initial opening being made.

Some idea as to the rapidity with which a cranial bone flap can be made may be had when it is stated that Dr. C. C. Rogers, of the Francis Willard Hospital, Chicago, has on a number of occasions demonstrated before his clinic that a bone flap three and four inches in diameter can be deflected, exposing the dura, in approximately three minutes from the time the scalp incision was started, while the initial trephining, should this be all that is necessary, can be made in ten seconds, with assurance that the instrument will stop just as soon as the bone has been punctured. As a further test of the accuracy with

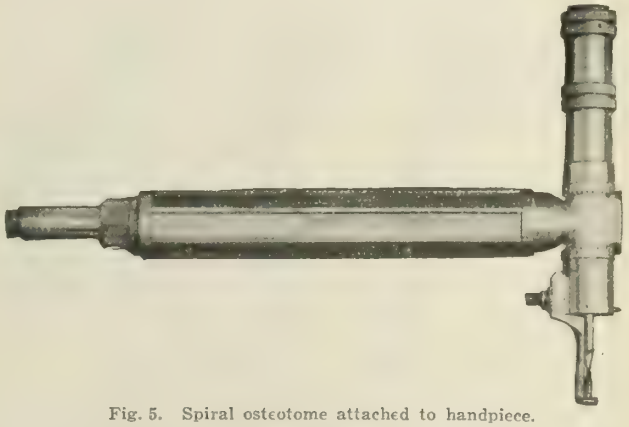


Fig. 5. Spiral osteotome attached to handpiece.

which this is accomplished, an empty skull was used in a demonstration during the recent Clinical Congress of Surgeons held in Chicago. This skull was repeatedly packed with thin tissue paper, numerous trephinings were done, but not even once was the tissue paper marked or torn.

Fig. 6. Flap being cut.

The initial opening being made (Fig. 4), the automatic drill is removed from the handpiece, and one of the spiral osteotomes with its guard is attached (Fig. 5). The engine is now started, the osteotome and guard inserted through the opening which has been made, and a flap can be cut of whatever shape desired, the handpiece, being swiveled, permitting free movement in any direction (Fig. 6).

It will, therefore, be seen that the equipment is apparently all that could be desired in the way of a mechanically driven apparatus, inasmuch as it offers a quick means, which is at the same time safe, for opening the skull. It does not produce the shock that is unavoidable with many other types of instruments, and the possibility of injury to the dura is practically avoided. The equipment is now made so that a number of other attachments may be used, some of which are illustrated (Figs. 7 to 14). The circular saw can be used for making bone transplants, amputations, etc., the spiral drills for bone plate work, the small round burs for mastoid operating,

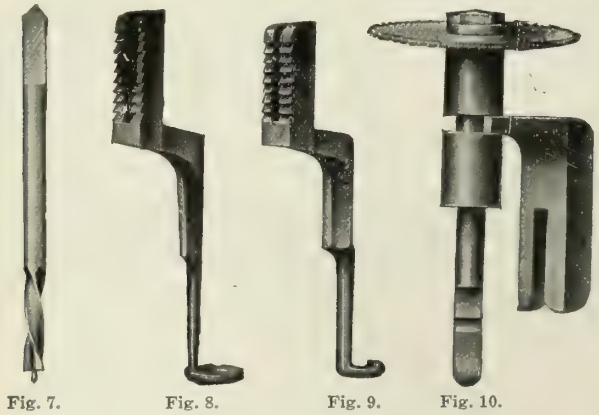


Fig. 7. Fig. 8. Fig. 9. Fig. 10.

Fig. 7, spiral osteotome; Fig. 8, round osteotome guard; Fig. 9, oblong osteotome guard; Fig. 10, circular saw.

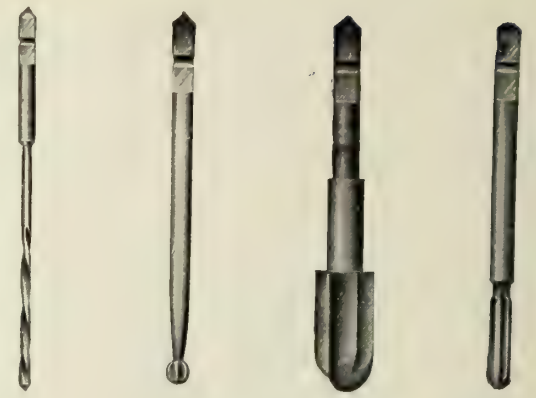


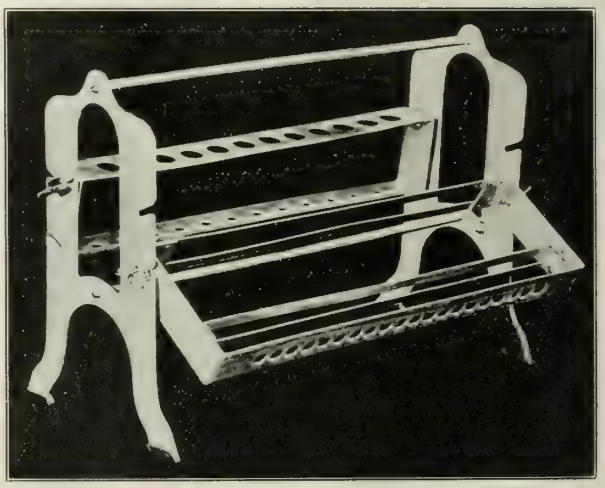
Fig. 11. Fig. 12. Fig. 13. Fig. 14.

Fig. 11, drill; Fig. 12, mastoid bur; Fig. 13, oblong bur; Fig. 14, oblong bur.

and the elongated bur for taking away necrosed bone. All operating parts are made so that they can be sterilized by boiling, the flexible shaft covering being constructed of a metal tube.

New Apparatus for Abderhalden Serodiagnosis and Other Tests.

This apparatus, which is made on original lines, is the invention of Dr. Therese O. Pohl, technician in the department of obstetrics and gynecology of Washington University Medical School, St. Louis. It was primarily intended for Abderhalden serodiagnosis, but tests have shown that it will meet all laboratory demands. The main points in its favor are adaptability, convenience, cleanliness, durability, and the absence of bulk and weight. Its difference, compared with the wooden racks now in use, is in its simple construction, adjustability, and material used. The



Apparatus for Abderhalden serodiagnosis and other tests.

stand, as shown in the illustration, is made of cast aluminum, has slots cut in both ends in which to hang test-tube racks of different sizes and for such purposes as Abderhalden serodiagnosis, Wassermann tests, urine analysis, culture media, etc. These racks can be slanted at any angle, and the degree is attained by means of bat-wing screws that can be loosened or tightened at will. Its height from the table, which is also adjustable, enables the use of a bunsen (micro) burner, which can be moved from one tube to the next, when it is used for boiling.

The material of which it is made will stand intense

heat, and does not corrode with acids. The possibilities of this apparatus are unlimited. The apparatus is in use in the obstetrical and gynecological laboratory of Washington University Hospital, and has given the utmost satisfaction.

Thoma-Metz Hemacytometer.

That there is something wrong with the hemacytometric methods usually employed is self-evident by the number of rulings and methods for blood corpuscle counting devised in the last few years. While the ingenious arrangement of some of the appliances is wonderful, and the accuracy of others is indeed remarkable, we feel safe in stating that, when it comes to a combination of greatest accuracy and simplicity in the modus operandi of blood corpuscle counting, a decided want was felt until recently. Unquestionably diluting the blood is the only logical way of approaching the problem, and it has been followed by all modifiers of the Thoma principle. The method employed to count the corpuscles present in the dilution has undergone a great many changes—from adding auxiliary lines to the ruling devised by Thoma (Turck, Zappert-Ewing, Neubauer, etc.) to changing the ruling completely (Simon, Bürker, etc.). The inherent faults of the methods have, however, been overlooked continually. Bürker has touched upon them, but his method, while very good, is still too complicated for the practicing clinician.

In the method devised by Mr. C. Metz it is claimed a solution of the problem has been found. The striking de-

Fig. 1. Thoma-Metz hemacytometer.

parture from the Thoma method is that no ruling in the counting chamber is utilized. This in itself is a tremendous advantage. The most accurate ruling is sometimes difficult to see, and, if it is broad and deep enough to be seen clearly, the individual lines are actually deep grooves—ditches, in fact—when compared with the dimensions of blood corpuscles; and, when such ruling is present in the counting chamber, an even distribution of the blood corpuscles is impossible. One will always find a greater number of blood corpuscles in the center square than in the ones surrounding it. Of course, the error will be more or less constant for each individual blood counting chamber, but it will vary from chamber to chamber, even if the same pipettes and the same diluting methods are employed, and the reason for this is the variation in the depth of the ruling. To avoid these troubles in the Thoma-Metz hemacytometer, the ruling is shifted from the counting chamber to the focal plane of the eyepiece. Furthermore, the ratio between the ruling, the cubic millimeter, and the magnification of the microscope have been considered, and the new units devised are based on this ratio. Not only that, but the counting units have been so fixed as to represent an exact submultiple of the cubic millimeter.

A counting chamber of the customary depth and dimensions is used, but there is no ruling on the platform upon which the diluted blood is placed. Pipettes of the customary form and graduations are employed. When red corpuscles are to be counted, a dilution of 1 part blood in 100 parts diluting fluid is needed. For white corpuscles, a dilution of 1 part blood in 10 parts fluid is required. So far nothing unusual has been done. The ruling, which is placed in the plane of the diaphragm of an eyepiece, is the

Fig. 2. Markings on the eyepiece.

only unfamiliar addition. The lateral dimension of the larger square in the center of the ruling is such that, taking into consideration the magnification of the No. 6 objective (4 mm.) and the eyepiece, it represents a linear object of 0.1 mm. on the stage of the microscope. The square in the eyepiece, therefore, stands for 0.01 mm. square. Owing to the fact that the counting chamber is 0.1 mm. deep, the square in the eyepiece represents the contents of 0.001 cmm. The dilution being 1:100, it is self-evident that the number of red blood corpuscles in a cmm. of blood, will be equal to the number of blood corpuscles counted in the large square multiplied by 1,000 x 100. In other words, five ciphers are to be appended to the number of blood corpuscles counted in the square.

It is in the circle of the ruling that the white blood corpuscles are counted. The area of this circle in the Metz ruling is exactly ten times that of the central square mentioned before. It represents, therefore, an actual surface of 0.1 square mm. on the stage of the microscope. The depth of the counting chamber being 0.1 mm., the capacity of the volume represented by the circle is 0.01 cmm. Therefore the white blood corpuscles contained in a cmm. of blood are equal to the number found in the circle multiplied by 100 x 10. In other words, all that is necessary is to append 000 (three ciphers) to the number of corpuscles found in the counting circle.

It is advisable that several fields should be counted by moving the slide on the stage, taking as a factor the average number of corpuscles found.

The Surgeon's Responsibility Independent of the Nurses.

The Supreme Court of Pennsylvania has reversed the judgment rendered for the defendant, ordering a new trial, in the case of Davis vs. Kerr. The defendant, preparatory to closing the wound, inquired of the nurses if their count tallied and if all the sponges had been removed. On their affirming it, he closed the wound, overlooking a piece of gauze about 12 inches long. The Court does not consider the defense sufficient in showing that he relied on the count of sponges made by a nurse.

Brooklyn's only orthopedic institution, the House of St. Giles the Cripple, recently collected $105,332. The campaign started to raise $100,000 for a new building, and subscriptions made after its close will make a total of nearly $110,000.

DEPARTMENT of NURSING

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Nursing in Infancy and Childhood—Development and Care of the Normal Baby in Its First Year.

BY HENRY F. KEEVER, M. D.

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In order to care for sick babies intelligently, it is necessary for the nurse to know something about the development of the normal child. At birth the average boy weighs 7½ pounds; the average girl, 7 pounds. At the end of the first year the boy will weigh 20½ pounds and the girl 19¾ pounds. At birth the average boy is 20.6 inches long; the average girl, 20.5 inches. At the end of the first year the boy is 29 inches; the average girl, 27.7 inches long.

FUNCTIONS.

THE VOICE.—During the first year the infant uses its voice merely to express discomforts and desires. At about twelve months it begins to enunciate single words, and in the middle or toward the end of the second year learns to form short sentences. As the voice is almost the sole means of expressing itself, a baby cries for many reasons. It cries:

1. For exercise—crying is the common method of expanding its lungs.
2. Because it is hungry.
3. Because it is thirsty—babies need water, and often water will satisfy them when an unthinking person would feed them.
4. Because it is wet or cold.
5. Because it is sick.
6. To express discomfort from any source, whether from too tight clothes, pins, etc.

MENTAL EXPRESSIONS.—A baby seldom smiles before the fifth or sixth week. It does not recognize objects before the sixth to eighth week. Touch, taste, and smell apparently are more or less developed at birth.

LACHRYMAL GLANDS.—Babies usually shed tears when three or four months old. Tears are suppressed when an infant is profoundly affected by disease, and a return of tears is an indication for a favorable prognosis.

TEETH.—There are twenty teeth in the first set and thirty-two in the second. The teeth of the first set appear in the following order:

6 to 8 months, 2 middle lower incisors.
8 to 10 months, 4 upper incisors.
12 to 14 months, 2 lateral lower incisors.
4 first molars.
18 to 20 months, 4 canines.
28 to 32 months, 4 second molars.

The symptoms of teething are temperature, distaste for food, drooling, and gastrointestinal disturbances. The ingenuity of the nurse is sometimes taxed to soothe a teething baby. A ring of hard rubber or ivory, or an old-fashioned wooden clothes pin, is easily kept clean and affords something hard on which to bite. When the teeth are very near the surface, they may often be rubbed through with a rough towel.

SWEAT GLANDS.—The sweat glands usually become active during the third to fifth week.

SALIVA.—The normal flow of saliva is much diminished during the first three or four months.

URINE.—Kidney functions begin early in fetal life, and the bladder is often found full at birth. The amount passed during infancy is relatively greater than that passed during adult life. An excess of uric acid stains the napkins red.

INTESTINAL DISCHARGES.—Meconium is found during the first three or four days to the end of the first week; then the movements gradually change from a dark green to a golden yellow when on breast milk. Normally there are two to four dejections a day. Meconium is sterile at birth, but infection quickly takes place through the mouth and rectum.

The normal stool in a breast-fed baby is a soft, smooth, golden yellow. The stool of a bottle-fed baby will depend entirely on the composition of the milk it is receiving. A milk too high in proteids will cause a stool with large, hard curds; too high in fat, small, soft curds, which when smoothed out have a greasy, soapy appearance and a sour odor. Stools may contain mucus, pus, and blood. The green color which sometimes appears is due to fermentation.

INTERTRIGO—(IRRITATION OF THE BUTTOCKS).—This is caused by too frequent or too irritating stools, or by wet diapers. When caused by the latter, it is a nursing problem entirely, as relief of the condition demands that the baby be kept dry and that the diapers be changed as soon as wet or soiled. Soothing powders, corn starch, talc, etc., are often helpful as adjuncts to dry napkins.

Successful feeding of a baby is partly dependent on the nurse. A baby should be fed slowly, twenty minutes to a feeding. It should be fed regularly, at definite intervals, and, if on the bottle, stated amounts. The bottle should always be held, not propped against a towel and the infant left to its own resources. The milk should be heated to 100° F., and should fill the neck of the bottle, so that the infant will not get a mixture of milk and air.

Vomiting in the breast- or bottle-fed may be due to a variety of causes. Overfeeding quantitatively, too rapid feeding, overfeeding qualitatively, and moving about after feeding all tend to induce vomiting. Of the anatomical deformities which induce vomiting, stricture of the esophagus, pyloric spasm, and pyloric stenosis are the most common.

Gas and colic are problems which the nurse is often called on to solve. They may be caused by too rapid feeding, overfeeding, and improper food. Among the simple remedies which may be helpful are change of position; sometimes simply putting the baby in the upright position tends to dislodge the gas. Heat applied to the abdomen and abdominal massage are often effectual. Hot water in tablespoonful doses by mouth and a rectal soap suppository often help.

An infant should have a daily cleansing bath, preferably in the tub, temperature of the water 90° to 95° F. A mild castile soap should be used sparingly and the skin dried with a soft towel.

The mouth must receive constant attention. Before and after every nursing it should be wiped out gently with a saturated solution of boric acid on a piece of soft cotton

or linen. Stomatitis, or sore mouth, is caused by dirty nipples, too hot milk (in the bottle-fed), prolonged feeding, seen especially in the bottle-fed where the child must manage the bottle, and in cases of general neglect. Pacifiers or blind nipples are a frequent source of stomatitis, causing also middle-ear disease, gas, and facial disfigurement.

Detroit Home Nursing Association.

The Detroit Home Nursing Association, recently organized in that city to provide home nursing for people in moderate circumstances, has just issued a small booklet outlining its plans. Criticism of it is heard because it does not seem to altogether realize the hope entertained when this organization was outlined and proposed at the Detroit meeting of the American Hospital Association, two years ago, that something was to be done in reality for people in moderate circumstances. In the booklet just issued it is announced that prices for service will be the same as those in the local nurses' registries—namely, $25 per week. The association proposes to furnish undergraduates of varying qualifications for from $9 to $16 per week, with day rates proportionately high.

In regard to the poor the booklet makes the following announcement:

"There being no fund on which to draw for the relief of families unable to pay for nursing or help, a new field of opportunity is open to churches, lodges, merchants, manufacturers, or friends to provide the means necessary for such service for their members, employees, or relatives."

It is difficult at first reading for the critic to see where this association offers any advantages over the ordinary commercial nurses' registries maintained in all the large cities and in connection with most hospitals, except perhaps that it is proposed to furnish under-graduate nurses; but they argue that under-graduate nurses are also available in the persons of the so-called "practical" nurses wherever they are needed, and the Detroit papers, just as the papers elsewhere, carry advertisements in the classified columns for women who are looking for these positions; so, "after all," they say, "the very much talked-of Home Nursing Association is, to the casual reader, little else than a directory for nurses.

It is reasonable, however, to believe there is more to the advantage of the class it is so much desired to help than is at first evident to the critics, for the originators make plain the fact that they propose to furnish workers for the particular need of the case—a graduate nurse when necessary, an attendant when necessary, or a household servant when she is required.

This association ought to accomplish good results because like schemes have been worked out elsewhere. Its success will depend largely on the degree of faithfulness in supervision and on the character of the attendants and helpers secured. One such organization, the Household Nursing Association of the Women's Municipal League of Boston, is known to have proved itself valuable to its community, but it has adhered strictly to its high standards of selection and supervision until now it proposes that its attendants shall have been trained as such before being sent into families.

It does not seem that the bottom has yet been reached in the consideration of illness among people of moderate means. Almost any plan proposed for them has a note of charity that is heard more or less clearly according to the zeal of the would-be benefactors, while the sick man and his family go their own way without fear or favor.

When the committee at work on a curriculum to be suggested to the American Hospital Association came to this question, and sought by every means within its power for a solution, a member suggested some form of insurance that should protect the people against disease and accident. It was then considered impracticable, and no insurance company could be found to take the risk, but that was four or five years ago and there had not been so much experience with "workmen's compensation acts" and "employers' liability acts," etc., as the last year or two have furnished.

It may transpire that, while associations are proposing and defending ways and means for the help of this great class, they, unconscious of the prominence they have attained, will take the matter into their own hands and solve their own problem as has always been their custom under other circumstances, "while all the world wonders" at the ease with which it is done.

Spring Meetings.

One has to give only a passing glance at the tentative programme prepared for the convention of the American Nurses' Association, to be held in St. Louis during the week of April 23 to 29, inclusive, to be impressed with the magnitude and power of this great organization, numbering more than 20,000 members. Efforts are being made to simplify the registration of delegates to the convention, thus preserving order and harmony, and giving undisturbed time to the sessions of the various branches of the association. It will also give an opportunity to reach large audiences in the city of St. Louis and to get them interested in the nurse and her problems. The committee having the programme in charge is wise in this, for the time has come when the nursing problems can no longer be kept within the hospital or its rather limited coterie of physicians and instructors.

A new and rather salient feature of the convention is the call for a mass meeting to be held on Sunday afternoon, April 26, in some large central place, where the clergy of all denominations, Jewish, Roman Catholic, and Protestants, may be able to unite under the leadership of a public-spirited man. This seems a great and uplifting step for the convention to make, which never has been possible before, because Sunday never has been included in the convention period. It is proposed to discuss at this meeting the place of religion in the life of the nurse from the standpoint of the representatives of the various denominations. It is also hoped that an outline of the work of the nursing organizations under these several denominations may be presented, and there will be letters from far-distant countries, such as China, Jerusalem, Labrador, etc.

The questions which are proposed most prominently for the programme are private nursing, registries or directories for nurses, state registration (which is to be treated in both retrospect and prospect), sections for head nurses —their relation to the training school, faculty, and the administrators of the hospital. There will also be a section devoted to food and feeding, both in health and in disease, as well as infant feeding. The work of the Red Cross will be discussed, as also the new work that nurses are doing. Round tables will be called for by members.

The National League of Nursing Education, formerly the Society of Superintendents of Training Schools, but now a section of the American Nurses' Association, proposes discussions and papers on some of the subjects already mentioned for the meetings of the main body,

such as registration and registries, and in addition they are giving especial attention to the teaching in schools of nurses, standards of requirements for entrance to training schools, courses of study, institutional problems, etc. There are also joint meetings of this body with the American Nurses' Association and the public health nurses. The public health nurses have also their own individual programme and joint sessions with the other bodies.

It is not possible at this time to give an outline of their programme, but something very much alive and very interesting, not only to their special branch of nursing work, but to the public in general, will be presented. No more enthusiastic or enterprising body of workers can be found than this Public Health Nurses' Association, not quite two years old, but with all the proportions and symmetry of an adult body. Its growth and work may almost be counted one of the wonders of recent years.

Nurses' alumnæ associations, state associations, and other affiliated organizations, as well as individual nurses, gain much by attendance on one of these conventions; in fact, they can hardly afford to miss them. An enthusiasm and strength is given out by meeting and associating for one week with such a large number of women engaged in like work. The enthusiasm thus gained has carried many a toilful worker through an additional year. Anyone fortunate enough to be sent as a delegate can never have the same idea of her work, her associate workers, and their place in the world that she had before. She unconsciously holds her head a little higher in her walk through life, and has greater respect, if possible, for nurses and nursing work.

Each nurse should make attendance on one of these conventions the goal of an ambition—and why not this year?

Progress.

With the trained nurse of the first generation still in active practice, one is almost overcome by the contemplation of the progress made by the profession. Forty or fifty years is a short period of which to write a history, and yet that would practically cover the time trained nurses have been at work in this country.

The value of the first nurses was largely inherent; they were wonderful women, who might and doubtless would have made good nurses by reason of their breeding, intelligence, industry, courage, and love of humanity, but they had these traits greatly enhanced by their one or two years of training. It has been a privilege to have lived in the same age and to have touched the hems of their garments. From the small seed planted by them in the early 70's there has grown a great tree in which verily the fowls of the air may find lodgment. It has many branches, but none stronger or of more luxuriant growth than that we have learned to call the public health nursing. This phase of the work is at present attracting many of our brightest and best nurses, and we find ourselves wondering why. Perhaps the answer to the query may be found in the fact that thus do nurses find scope for that which is within them, which, when experienced, brings satisfaction and peace. They cannot be influenced by commercial reasons, because such are more plentiful in other lines of work.

Twenty years ago our superintendents of training schools were greatly concerned regarding the trained nurse's future. Times were hard for her; her ranks were increasing rapidly; the recompense for her services was considered high; she was a luxury not to be indulged in without grave consideration; she was often without work because there were few calls for her, excepting for private duty. Then came a period of rejoicing at the many new avenues for work opening up for nurses, until today we find the reverse is true, and there is more work than workers, while we frequently hear expressions of alarm at the falling off in the relative number of nurses for private duty. So great has become the demand for nurses qualified to fill positions in some form of the public health service that the Boston Instructive District Nursing Association has decided to offer a four months' post-graduate course in instruction. Their circular says: "The course is designed to give a basis for the varieties of social work where nurses are in demand, and takes up the ordinary procedures in district and visiting nursing in all their branches, and deals with the educational and preventive aspects of the work." The variety of the field work, lectures, and class discussions shows the relation of nursing to other social activities. There is opportunity for practical work under instruction in the district work, preventive work for mothers and babies, and work with the associated charities, as well as instruction and experience in rural nursing.

The course as outlined appears exceedingly interesting, for it is noted that the instruction is carried on by means of classes, conferences, and excursions, and includes, with opportunities to observe, the history and development of school nursing, tuberculosis nursing, preventive work for babies, prenatal nursing, welfare work in shops and factories, hospital social service, and medical and social relation of disease, with the application of modern medical knowledge as applied by nurses in the prevention of disease, and elements of sociology and social progress, with introduction to the special social and industrial problems on which public health is dependent.

Interesting lectures and discussions are announced, and a library is maintained for the use of the students, who are required to do a definite amount of reading. Not only is the tuition free, but, in order to make it possible for nurses of limited means to take this course and meet their living expenses, a small number of scholarships are offered.

A course of such apparent interest is a rarity, and the nurses originating and having it in charge have done much to elevate the standards of nursing education in conservative Boston. Their influence has been felt for a long time, and its end is not yet. They are to be congratulated and bidden "godspeed" in this their latest enterprise.

San Francisco Meetings.

Arrangements for the meetings of the International Council of Nurses to be held in San Francisco, May 31 to June 6, 1915, are already in progress. They present many unique and interesting features, one of which cannot be announced too early. This refers especially to the exhibit to be prepared for the nursing section, for which two prizes of $100 and $50, respectively, have been offered by one of the older nurses for the best and the second best inventions by nurses of some implement or device that shall contribute directly to the welfare and comfort of the sick, or that shall aid in the ministrations to the sick. Another older nurse offers $100 as a prize for the best contribution of some article or form to be designated later by the committee having the matter in charge.

It has always been the belief of the observant ones that

some attention should be paid the efforts and ingenuities manifested daily in the wards of our hospitals, but which are passed over by reason of the stress and push of the work. This is the nurse's opportunity, which it is hoped will be embraced and result in a sharp competition that shall bring special honors to some and credit to all nurses.

The Relief Fund and the Robb Fund.

There are two lines of work particularly interesting to nurses at the present time in which every one should have a part. These are the two committees working under the auspices of the American Nurses' Association known as the Relief Fund Committee and the Isabel Hampton Robb Memorial Fund Committee. The former, an enterprising, active committee, has collected by earnings, through the publication of calendars, subscriptions, and otherwise, a sum of money nearing the $10,000 mark. It has for its object "to provide financial aid in time of emergency; to give relief to disabled members not otherwise provided for, and to establish a loan fund." The other fund, established in memory of Isabel Hampton Robb, is a fund for educational purposes, and has now reached a sum amounting to nearly $14,000. This fund is carefully invested, and has commenced to be used for scholarships, there being granted during the year just ended scholarships to the amount of $400, which has been increased to $600 for the current year.

Collections for these funds are going on constantly, and, when one considers that work was commenced on the first of them less than four years ago and that most of the money has come from individual nurses, one is impressed with the enterprise and loyalty of these hard-working women.

The Life of Florence Nightingale by Sir Edward Cook.

The "Life of Florence Nightingale" is exceedingly timely in its appearance. Popular legend has pictured a young woman of high degree who withdrew from the pleasures of fashionable life to become the "ministering angel" of the Crimea. Only now, when her papers are accessible, does truth reveal a life built on larger lines and a work of more importance then belong to the legend. So aptly has her biographer chosen from her voluminous correspondence and so simply has he connected her letters, with only enough of the history of the day to place her work in its true light and to exhibit her characteristic methods, that one reader has repeatedly felt herself following an intimate autobiography. The inspiration which never forsook Miss Nightingale in her pursuit of the art of life has happily expressed itself in her letters.

Sir Edward Cook divides her life into seven parts: Aspiration (1820–1854), The Crimean War (1854–1856), For the Health of the Soldiers (1856–1861), Hospitals and Nursing (1858–1861), For the Health of the Army in India (1862–1865), Many Threads (1867–1872), and Work of Later Years (1872–1910).

In the earliest period Miss Nightingale purchased her birthright—her ideal of self-expression in work. As the author states, "the story of her earlier years is that of the building up of a character. It shows us a girl of high natural ability and of considerable attractions feeling her way to an ideal alike in practice and in speculation. In a way, the story of her earlier years is the history of a pioneer in the emancipation of women.

In the second part is traced the deep significance of her years in the Crimea; those brief years out of which grew many of her later activities in behalf of the British soldier at home and abroad, as a promoter of hospital reform, Red Cross societies, and as a founder of modern nursing.

In the third part the administrator and reformer shows her peculiar powers of resourcefulness. For the health of the soldiers, "her boys," she labored with incessant industry and devoted concentration. Her friendship with Lord Sidney Herbert, unique in the history of politics, revealed perfect sympathy with him in the service of high ideals.

As a religious thinker she was somewhat of a mystic, though she believed intensely in a personal God and in a personal religion. While the fourth part continues to describe her work as a hospital reformer and founder of modern nursing, it deals rather exhaustively with her ideas of God's laws.

And in the fifth division she is busily at work for three years to improve the health of the army in India. Tedious as much of the statistical preparation for the royal commission proved, she was unremitting in her campaign to secure government cooperation for new schemes and to enlist other reformers in the work. Three years of patient toil increases one's respect and admiration, for they are spent in a comparative solitude which is impressive.

After 1862 she continued her Indian work, but other questions pressed upon her, notably the reform of workhouse nursing. The sixth part deals with her expert opinions and advice on every question of public health which in the next five years came before the Government. Her later years, from 1872 to 1910, were rich in reward, the fruit of earlier activity, and there was occasionally an important experiment, such as the one in rural hygiene.

As to her character, the author points to her own praise of a fellow worker for the last word: "One whose life makes a great difference for all; all are better off than if he had not lived; and this betterness is for always, it does not die with him—that is the true estimate of a great life."—Myrtle Young.

A London Hospital for Diseases of the Heart.

The new National Hospital was opened on January 21 with an appropriate program. His Royal Highness Prince Arthur of Connaught was present. For a number of years the old hospital was in Soho Square. The present building is in Westmoreland street, and covers an area of 5,000 square feet. In the cardiagraphic laboratory are to be seen the Cambridge string galvanometer, a Bock-Thoma oscillograph, and a Siemens cardiagraphic galvanometer, as well as a Boulitte pymograph and appropriate instruments for taking venous and arterial tracings and blood pressure.

The forty-fourth annual report of the Massachusetts Homeopathic Hospital contains the following information: There were treated in the wards of the main hospital 6,508 patients, with a daily average of 248.49; the out-patient department treated 12,411 patients and made 43,983 visits; 11,838 visits were made to district patients, and the district and social visits were 7,056; at the J. C. Haynes Memorial for contagious diseases 455 patients were treated, with a death rate of 4.2 percent; the receipts for paying patients in all departments were $173,-148.14 and the expenditures in all departments were $228,105.09; 998 maternity patients were admitted to the main hospital; the daily per capita cost of the main hospital was $2.03, and the cost of the contagious department was $1.61.

QUERIES *and* ANSWERS

Water for Hospital Use.

To the Editor of THE MODERN HOSPITAL:

We are to build a hospital for 200 patients, with administrative preparation for a second pavilion for 100 private patients. We are to obtain our water from the city supply, which has an average pressure of about twenty-five pounds; our architect is arranging for a 3½-inch intake pipe, with a tank on the roof to hold about 5,000 gallons. Some one has suggested that such a pipe is not large enough and that our tank is not large enough. Can you give us any advice on either or both points?

HOSPITAL, New York.

Let us talk about your completed hospital of 300 beds, because it is much easier and cheaper to have it right at first than to make additions afterward. Under average conditions, a 300-bed hospital will use about 200,000 gallons of water per twenty-four hours for purely hospital purposes, and, if you have a power plant and laundry and nurses' home, you will need 100,000 gallons more. A 4-inch pipe at twenty-five pounds will take in about 250,000 gallons in twenty-four hours, provided the use of the water is regular all the time. So your 3½-inch pipe would not take in enough under most favorable circumstances. But conditions of hospital use are not favorable; from 7 to 11 a. m. you will use approximately 15,000 gallons an hour, and at night you will use little or none, but you must provide for the maximum.

For your purposes you should have at least a 10,000-gallon roof tank, operated by two pumps under automatic control of a float mechanism in the tank—two pumps instead of one, because then they can operate synchronously, which will do away with the pounding in the house pipes so objectionable where one only is employed. You should feed your pumps not from the intake, but from a surge tank located close to the pumps, which will give them a certain freedom of action.

You should have a 4-inch pipe intake at the very least, and, if you can tap two different mains on different streets, each with a 3½-inch pipe, you will be far safer. It is surprising how often a city distribution pipe is out of commission. If you have access to two, each independent of the other, you will be absolutely safe so far as water is concerned. It is a terrible thing to be without water in a hospital, even to the necessity of drawing the fires in the power plant sometimes. Architects have no conception of these things—insist upon your point.

JOHN A. HORNSBY.

To Clean and Sterilize Test Tubes.

To the Editor of THE MODERN HOSPITAL:

I would like very much to have the experience of others as to the best way to clean and sterilize test tubes, and to keep the glass perfectly clean. Could you tell me how to do it?

E. L. K., Chicago.

It is safest to buy the best grade of test tubes, the ones made of what is known as "lead" glass, which is the glass made with the combination of potash and oxid of lead. This ware emits a clear, white light.

Two of Chicago's leading laboratories that make a specialty of culture tests, and clean and sterilize hundreds of test tubes daily, use the following method:

They use a boiler that holds eight to ten gallons of water (a wash boiler answers the purpose). The test tubes are placed in the boiler and five gallons of water are poured into the boiler. Then add one pound of genuine green oil soap to the five gallons of water, and boil for half an hour. The tubes are rinsed three times—the first time in warm water, and the second and third times rinsing can be in either warm or cold water. If the tubes are to be used for delicate and accurate chemical results, a precaution is taken by using an acid bath after the first rinsing. Place the tubes in a ½ percent solution of hydrochloric acid for a few moments, and then rinse off the acid thoroughly with tap water—some use the chromic acid cleaning mixture.

In hospital work it is not necessary to give the acid bath if green oil soap is used, as this soap has the peculiar properties of leaving the tubes clear and bright. Use the test tube brush to aid in rinsing. Even one rinsing in warm water is sufficient to make the glass clear and clean. Dry the tubes in the hot-air sterilizer.

If a hard or soda soap, soap powder, sal soda, or neutral soda is used to boil and sterilize the tubes, it is necessary to give the tubes an acid bath to remove the sodium carbonate that clings to the glass, which gives the dull gray appearance to the tubes and may affect the culture media.

To Take Stains From Laundry Goods.

To the Editor of THE MODERN HOSPITAL:

What is the most efficient method for removing stains from linen, prior to disinfection, that under some conditions, particularly when stains are caused from milk, tend to become set if not removed prior to disinfection?

J. W. T., Boston.

It is important to either change the chemical character of the stain, or else entirely remove it before disinfection, to prevent the possible setting of the stain by the disinfectant used. A mild neutral soda bath for the linen will come the nearest to meeting this condition.

Each kind of stain on linen has its own method of removal. Fruit stains should be dissolved with boiling hot water; coffee and milk spots, if bad, should be washed out with soap and water; ink stain spots soaked for an hour or two in cream or buttermilk and then the milk washed out; blood stains soaked in cold water and rinsed out.

In addition to these treatments, to be on the safe side and catch all milk spots, etc., all the linen should be immersed in cold water in which has been dissolved 2 ounces of Kelsoda crystals or Wyandotte soda for each gallon of water used; let the linen remain ten to twenty minutes; rinse once and then disinfect.

If you do your own laundry work and will follow the method given below, there will be few stain spots on the linen. The important points to watch in laundry work are:

1. Do not overload the machine with goods; it takes from nine to eleven minutes for the inside piece to work to the outside of the machine; if overcrowded, it never comes out and is never clean.

2. Do not put hot water or soap suds in the clothes first; some stains are set by hot water and soap.

3. Do not use cheap soaps; to loosen all stains, except

iron rust, the clothes should have a weak neutral soda cold bath for ten minutes first.

The following rule should be followed for machine washing:

Put in a moderately sized load of clothes and add cold water until you have four inches of water in the inside cylinder. If it is artesian or very hard water, add 3 pounds—if lake or soft river water, only 2 pounds—of either Wyandotte soda or neutral Kelsoda crystals. Dissolve the soda in a pail of water first; run the machine ten minutes, and discharge all the water. Refill the machine with warm or hot water up to three or four inches in inside cylinder; add enough soap to make good suds, gradually bring to boiling, and run for twenty to thirty minutes. Discharge the soap suds and rinse the goods in the usual way.

The quickest method to remove stains and whiten clothes, and also in the end the most expensive, is the use of the chloride of lime solution or bleach. Your laundryman knows how to make this bleach and use it. Good laundries that have the interest of their customers at heart do not use this bleach, but use good soap and good neutral soda. Iron rust stains require a special oxalic acid wash—quite tedious work, and a great deal of care.

The annual meeting of the Vancouver (B. C.) General Hospital was held on the evening of February 11 in the assembly hall of the new wing of the hospital. The meeting was one of the largest attended on record. Splendid reports were given by the chairman of the Board of Directors, the treasurer, the presidents of different auxiliaries, and the general superintendent. The meeting was particularly representative, there being delegations from all the organizations in the city and from outlying municipalities. Mayor Baxter gave a most appropriate address, eulogizing the work of the hospital and pointing out the rapid development from its inception in 1902, when the total number of beds was 45, with a staff of 28, which today is a hospital of 424 beds and a staff of 205. Attention was also called to the fact that this hospital has turned over $75,000 worth of charity work during the year, and that the per capita cost was $2.11 a day, being considerable less than other similar institutions in Canada. Praise was given the high efficiency of the work during the year. After the meeting lunch was served, the people then proceeded to inspect the building and equipment, and after this tour of inspection a dance was given by the superintendent and residence staff at the doctors' new residence.

The county commissioners and township trustees of Lebanon, Ind., have just closed a contract with Williams Hospital at Lebanon by which the hospital is to care for whatever public charges may be sent to it, at the following prices: Ordinary medical cases, per week, $8; typhoid fever, obstetrical, and surgical cases, per week, $70; laundry, per week, each patient, 50 cents; operating room fee, $3. It is agreed that no tuberculosis, cancer, or communicable cases are to be sent to the hospital under this contract. On the other hand, the commissioners and township trustees are to designate the physician to take charge of all charity cases, and such physician shall have access to the hospital and its services at all times. This contract is of interest because the fees allowed the hospital under it are somewhere near representative of the actual cost of maintaining this class of cases in a small, rural hospital. Most contracts of this sort provide for fees only about half the actual cost.

HINTS FOR HOSPITAL SUPERINTENDENTS.

A device is used in European and English hospitals to save gas. It is the ordinary laboratory pilot light located at the burner, with an automatic arrangement by which the gas is turned up when a utensil, such as a kettle, is set on the plate, and which again automatically shuts off when the utensil is lifted away.

Dr. Richard C. Cabot has this to say in the January *Atlantic Monthly*: "Merely from the point of view of success in teaching, it is folly not to know those whom we are trying to teach. I have often found that after a man has given me the opportunity to learn something of his personal life, his home and family, his hopes and forebodings, he begins to do better work in class. Such improvement goes to show that we never get the best out of people so long as we treat them as a class, ignoring the unique interest and value of each individual." This human touch, the appreciation of the personality of every individual with whom one comes into contact, is just as important in the business or hospital world as in teaching.

English hospitals use stout brown paper instead of rubber sheeting for the dressing of very bad pus cases, the paper being burned immediately afterward. This same kind of paper is used in slum work to place between the too scanty bed coverings to hold the heat of the body. It is very probable that this method will eventually be adopted in this country for the reason that a well-known company manufacturing paper specialties has perfected a specially prepared paper which is now being introduced to the hospitals. This paper is made up in two grades, one as a bandage and one as a sheeting. The paper is waterproof and will cost about 50 percent less than the usual bandage.

When you see your surgeons putting all their strength against a strand of catgut in an attempt to tie it tightly, and then hear them quarrel at the hospital because the gut breaks, just remind them that the best surgical advice is that more sloughs and more stitch abscesses are made by cutting off the blood supply in the tight tying of sutures than in any other way. They know, or should know, that the best surgical experience teaches deftness in the gentle approximation of the lips of the wound, rather than tight tying and "puckering" of the line of suture. Catgut was never intended to test the strength of the surgeon, and the test of the virtue of catgut is not one of mere tensile strength.

When planning for a hospital, urge the board to consult with the medical staff members. Not one doctor in a hundred can read blue prints, so the plans will have to be gone over with the architect and explanations will be required. Board members are usually trying to do the best they know how, but they know so little about their business as a rule that they often are not aware that the various service members of the medical staff could give them a good deal of help in planning the various parts of their building. Doctors may not know how to amend plans, but they can tell the architect what they want and help him immensely. As a usual thing, the criticisms of the doctors come only after the building is well under way, when they can see what they are going to get, and when it is entirely too late to make any changes. If the doctors were consulted the first thing, many an extra would be saved, and consequently many a dollar.

Fig. 1. Philippe Pinel in the Salpetrière, Paris, 1793.

OLD AND NEW WAY OF CARING FOR THE INSANE.

Solitary Confinement and Idleness Have Given Way to Occupation and Companionship—Shackles and Prison Bars Are Banished.

Who shall say whether recent medical changes in the care and treatment of the insane, defectives, cripples, and the otherwise helpless are due in greater degree to modern humanitarianism, or to a better knowledge of the cause, course, and cure of disease? In any event, methods that were permissible only a few years ago are no longer tolerated.

It is said that insanity and correlated conditions are on the increase by giant strides, and some radical experts and statisticians have gone so far as to say that all mankind is going mad.

A short time ago it was ascertained that syphilis in young men who applied for enlistment in the army was greatly on the increase; a fuller inquiry, however, revealed the further fact that this increase dated from the initiation of the Wassermann and Noguchi tests, and that there were not more cases, but that a better diagnosis was made, and that cases which had eluded admission medical officers in the past were now diagnosed. Who shall say that the case is not the same with insanity, and that persons who were formerly merely "queer," or who were "conjured" or "bewitched," were not insane?

Fig. 2. Insane department in a county almshouse.

The evolution in the care of these helpless people must be a most interesting study to hospital workers and thinkers. The National Committee for Mental Hygiene has led the way in these studies, and has published some excellent illustrations on the "before-and-after" principle. We are reproducing some of these illustrations.

The first illustration shows the court yard of a "madhouse," the celebrated "Salpetrière" of Paris, in 1793, dur-

Fig. 4. Occupation and companionship at the Manhattan State Hospital.

ing a visit by Philippe Pinel, one of the first physicians to deserve the appellation of "friend of the insane."

Fig. 2 illustrates a day room in the negro quarters of the insane section of a county almshouse.

Fig. 3 illustrates the old method of treatment of the insane, "Silence and the solitary." And it was expected to restore this woman's mind in this way. No words could add to the pathos, not to say horrors, of these three pictures.

Figs. 4 and 5 are the modern way. These pictures need no further comment, except that it might be wished that the humanitarianism indicated, and the sound scientific principles involved in this treatment of the insane were not too frequently marred by brutality on the part of

Fig. 5. Day room in a modern state hospital.

Fig. 3. Silence and the solitary.

attendants, made possible by negligence on the part of administrators, coupled with the Pharisaism and hypocrisy of modern civil service.

NURSING COMMITTEE ASKS QUESTIONS.

Recent Meeting in New York Decides to Put Grading of Nurses Up to Hospital People—Series of Problems Propounded.

It will be remembered that at the Boston meeting of the American Hospital Association a committee that had been appointed the previous year to consider and report on a proposed scheme for the grading of nurses made a majority and a minority report. There was much discussion of the subject, and the committee, after being enlarged by the addition of two "superintendents of large hospitals," Dr. Howell and Dr. Mann, was sent back to report to the St. Paul meeting. This committee held its first meeting at Buffalo on January 13th and 14th. A series of ten questions has been sent to all the members of the association, asking that replies be sent to Dr. R. R. Ross, Buffalo General Hospital, not later than April 15th. The questions follow:

1. In your opinion, is it possible to meet the nursing needs of the average community in city, town, and country in the United States and Canada with graduate nurse service alone?

2. If in your opinion only graduate service should be used, will you kindly present an outline of a practical, comprehensive program for supplying graduate service to all classes needing continuous nursing?

3. If more than one grade of nurse is a necessity, will you please state how many grades you consider necessary? How would you classify nurses so as to include in your classification all who nurse for hire?

4. Will you kindly suggest a substitute term for the grade B or "certified nurse," as recommended by the committee on grading of last year, if you consider that some better term should be used to designate nurses trained in special hospitals or hospitals unable to give a full training? Please state whether or not you are satisfied with the distinctive terms recommended by the committee of last year. Give briefly your reasons if not satisfied.

5. If several grades seem to be necessary, how and where should the several grades be trained?

6. In view of the fact that many tuberculosis hospitals find it impossible to secure sufficient graduate nurses to care for their patients, what measures would you suggest for meeting the nursing needs in such institutions?

7. If training is given in a tuberculosis hospital, how long should the course be and how would you classify those completing such a course?

8. In view of the fact that there is a constant and pressing demand for maternity nurses in homes of moderate means, what measures that are practicable for the average community would you suggest for meeting this need—how classify such nurses?

9. What constructive recommendations would you make with a view to improving on the plans presented by the committee on the grading of nurses in the report submitted to the association at the Boston convention, a copy of which was mailed to each member?

10. Will you kindly suggest to the committee of this year any feasible plans which occur to you for improving the quality of home nursing now being received by those who cannot afford graduate nurses?

THOMAS HOWELL, M. D.
WILLIAM O. MANN, M. D.
CHARLOTTE A. AIKENS.
IDA M. BARRETT.
EMMA A. ANDERSON.
R. W. BRUCE SMITH, M. D.
RENWICK R. ROSS, M. D.
Committee.

PHILADELPHIA'S FAR STEP FORWARD.

Central Hospital Bureau to Be Inaugurated With Skilled Heads to Aid All Hospital Activities.

A movement recently instituted in Philadelphia promises to increase the efficiency of the hospitals in that city to a very great degree. A number of physicians, under the leadership of Dr. Edward Martin, chairman of the committee, and Dr. Joseph S. Neff, director of public health and charities, have created a permanent organization, and have engaged the interest and cooperation of sixty-five hospitals for the study of hospital conditions and the formation of a hospital bureau, to cover the following points:

1. To place within the reach of every hospital and dispensary the latest information in regard to hospital organization, management, construction, and equipment.

2. To maintain a central purchasing agency that (a) will make the necessary tests and establish standards of quality and price for the medical, surgical, and household supplies ordinarily used in our hospitals; and (b) to enable every hospital—large or small—to save the money now wasted in purchasing supplies without a full knowledge of standards, prices, and current market conditions. The present annual cost of maintaining our hospitals is about $4,000,000, and nearly one-half of this amount is spent for supplies.

3. To develop a community program for the hospital work of Philadelphia with a view to preventing the unnecessary duplication of expensive equipment and the overlapping of work that have proved so wasteful under the present system.

4. Acting in an advisory capacity to aid individual hospitals in their efforts to increase their own efficiency and to make the best use of the funds intrusted to their care.

The proposed central hospital bureau, with its skilled organization, complete hospital information, modern systems of investigation and record, staffs of expert accountants, auditors, and purchasing agents—all at the service of each hospital—will make it possible for the smallest institution to be conducted with the same decision and skill as the largest, and for all of them to effect a great saving in their expenditure of time and money and human effort.

The committee expects that it will have the cooperation and the support of every business man who is either a trustee of or a large contributor to any of the hospitals in Philadelphia.

The Long Island College Hospital at Brooklyn is to have a five-story building to cost $200,000.

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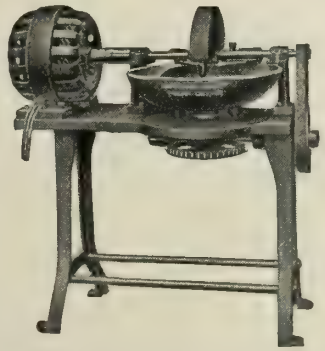

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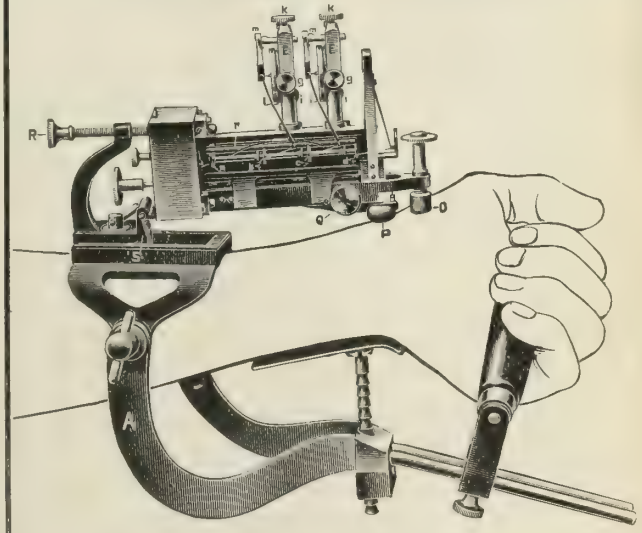

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NEWS *of the* HOSPITALS *and* SANATORIUMS

PHILADELPHIA HOSPITAL NEWS.

Plans are completed for a fine building for nurses at the Coatesville (Pa.) Hospital.

Mt. Sinai Hospital is to have a two-story brick and concrete laundry and garage 40x45 feet.

A contract has been awarded for the three-story stone and fireproof addition to the Jewish Hospital at York Road and Olney avenue.

A benefit concert was held on January 22 at the Bellevue-Stratford Hotel for the maternity hospital of the Woman's Medical College.

Architects are preparing plans and specifications for alterations and additions to the Garretson Hospital, at 1813 Hamilton street, for Temple University.

The architect is preparing revised plans and specifications for a two-story brick municipal hospital building, 32x100 feet, to be erected at Millville, N. J., at a cost of about $20,000.

The will of the late Judith L. Frechie contains bequests of $500 to Mt. Sinai Hospital, $1,000 to the Jewish Hospital, and $500 to the Jewish Maternity Hospital, and to many other relief institutions.

Builders are estimating on plans and specifications for the equipment of the new milk and wash room for the children's medical ward of the University of Pennsylvania Hospital. The building is to contain sterilizing and pasteurizing plants.

A gift of $12,000, to be used in purchasing radium for the use at the University at Pennsylvania, was announced January 26. The radium will be used to give medical treatment, and especially is it to be used in research work with a view to widen its surgical possibilities.

Much of the overcrowded condition at the Philadelphia Hospital for the Insane was relieved January 27 by the transfer of 150 male patients to two new buildings just completed at Byberry. Even this left 1,864 insane at the hospital, or 684 above the proper capacity of Blockley.

The Camden County Hospital for the care and treatment of persons suffering from tuberculosis, which costs $50,000, is completed, and probably will be in condition to receive patients within the next few weeks from Camden county. It is located on the line of the old Camden & Atlantic Railroad on grounds comprising eighty acres.

Dr. Charles H. Frazier, Stanley H. Hall, and F. L. Little, of Philadelphia, started a movement at Scranton, Pa., for a state-wide effort having in view the regulation of public charities and the evil of state appropriations for such purposes. An organization is to be formed to cooperate with the Public Charities Association of Pennsylvania.

A mineral which has been found valuable in the treatment of malignant disease, mesothorium, is now being produced at the Welsbach Company's plant, Gloucester,

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"Action **sure, rapid, harmless, and durable.**"—A. Besredka.

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For a complete review of the literature on Serobacterins, see Mulford Digest for December.

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opposite the Philadelphia navy yard. This extraction from the ores of the Carolinas and Brazil is of great importance, as it is the first attempt to do this work in America.

A committee of medical leaders met on January 16 and offered tentative plans to the city authorities for changing the Philadelphia General Hospital into a great modern institution. As a first step the engagement of a high-class architect who is recognized as an authority on hospital construction is advised, a preliminary appropriation of $50,000 to be made for this purpose.

At a joint meeting of medical societies in Hahnemann College Building on December 16 graft and misapplication of funds allotted to hospitals and dispensaries were denounced, and reforms were proposed as part of the crusade that local physicians are waging to prevent thousands of persons each year from obtaining medical services and drugs without paying for them when they are able to do so.

MISCELLANEOUS HOSPITAL NEWS.

A call has been made for American nurses to go to the relief of sufferers on both sides in the Mexican war now raging. The call came through the Galveston chapter of the National Red Cross Association. Four Galveston nurses volunteered at once, and it is said there will be no lack of volunteers if there is a real need and if application is made by the authorities on either side.

At the annual meeting of the Tuberculosis Preventorium for Children Society, held in the New York Academy of Medicine, announcement was made that $10,617 had been subscribed for the new open-air school building. Nearly $2,000 more will be necessary. The institution has 158 beds, thus being able to care for about 600 children, the average length of residence being three months.

Secretary McAdoo has asked Congress to appropriate $47,000 to establish a pellagra hospital in the South. He proposes to spend $6,000 in the equipment of a hospital with 25 beds, $3,000 for the equipment of a chemical laboratory, $22,000 for the payment of the personnel, exclusive of a pharmacist and a commissioned officer, $12,000 for the maintenance of the hospital, and $4,000 for the maintenance of the laboratory.

On January 17 the new Ohio Valley General Hospital at Wheeling, W. Va., was formally opened to the public, with ceremonies that drew thousands of people from the city to the institution. Speeches were made, congratulations were offered, and there were expressions of the greatest civic pride from everybody. The hospital cost about $300,000, and is a handsome block style hospital, equipped with all the modern apparatus of the present day.

Miss Anna Mahoney, R. N., has been appointed superintendent of the training school of the Mary Immaculate Hospital, Jamaica, L. I., with Miss Mary Walsh, R. N., as assistant. Miss Hannah Crowley, R. N., and Miss Helen Ryan, R. N., until recently superintendent and assistant, have resigned to take up other work. Both Misses Mahoney and Walsh are graduates of the school over which they will now preside. The Dominican Sisters of Brooklyn, who are conducting the Mary Immaculate Hospital, have again advanced the standards of their training school, which now stands abreast of the foremost institutions in point of qualifications demanded in their pupils.

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Sterile Bone Wax in the new "Lukens Container," permits a rapid and clean application to the oozing surfaces.

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Trim, smart-looking and strictly tailored uniforms are now to be had all ready for wear.

The up-to-date supervisor has learned that there is no need of subjecting nurses to all the trouble, delay, and expense of having uniforms made to order when **better made** and **better fitting** uniforms, such as **Dix-Make**, are to be had in all sizes and lengths.

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Germ-proof, fire-proof, and water-proof. Wears twice as long as a wood floor. Does not wear dusty.

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The hospital problem of Richmond, Va., that has been under discussion for several months has now been satisfactorily solved, for the next ten years at least. The administrative board of the city is to take over the old Virginia Hospital and operate it as a municipal institution. The medical school gives the hospital rent free for ten years in consideration of being allowed to name three-fourths of the medical staff, the city to name the other fourth.

Judge Sheldon, of the Supreme Judicial Court of Massachusetts, has ordered the city of Gloucester to prepare plans at once for an isolation hospital. As soon as the plans are finished the city must build and open the hospital. This is one of the cases that have created so much newspaper comment, occasioned by a refusal on the part of Gloucester, Lowell, Fall River, and a number of other cities to comply with the new law compelling them to build and operate hospitals of their own. Opponents of the new law say that the whole matter will now go to the supreme court of the state as to the constitutionality of the legislation.

The commissioner of the New York City Department of Health has recently formed an organization for welfare work among the employees of the department. It is planned to include the following activities: investigation of all absences over forty-eight hours, the keeping of records of the physical condition of the employees, the provision and supervision of a suitable retiring room for women and of a suitable lunch room, the establishment of an open-air roof garden for the use of employees during the lunch hour, the organization of a vacation camp for women, and the delivery of lectures on personal hygiene. The commissioner believes that the efficiency of the department and its employees can be greatly increased by the adoption of such a system.

There is to be complete reorganization of the staff, including the house staff, of the new Cincinnati General Hospital. The university is to have charge of all the services, but there will be members of the staff who are not university men, the proposal being to place all the services under the direction of men named by the university and who belong to its faculty, in order to maintain responsibility for the character of work done. It is intended that all the medical work done in the hospital shall be under the direction of these chiefs of services. Dr. Holmes, hospital commissioner of the city, who will be virtually the representative of the mayor in directing affairs of the hospital, is also dean of the university, so that authority and responsibility are to be concentrated. The new superintendent of the hospital, who will be selected shortly, is to have charge of the physical administration of the institution, although it is agreed that he will be a medical man.

It is planned to raise $80,000 for a new hospital in Lakewood, Ohio. Something rather unique in the way of the collection of hospital funds is promised for a campaign, which, as announced by the committee, will include "teaching of the art of soliciting funds by prominent business men; workers will be supplied with the correct formulas for extracting money painlessly, and given arguments calculated to persuade the unwilling." The new hospital is to be erected at Belle and Detroit avenues, and is to be constructed of red brick, with stone trimmings. There will be a full complement of modern equipment, including cold storage rooms, pathological laboratories, and the ordinary service features. The committee

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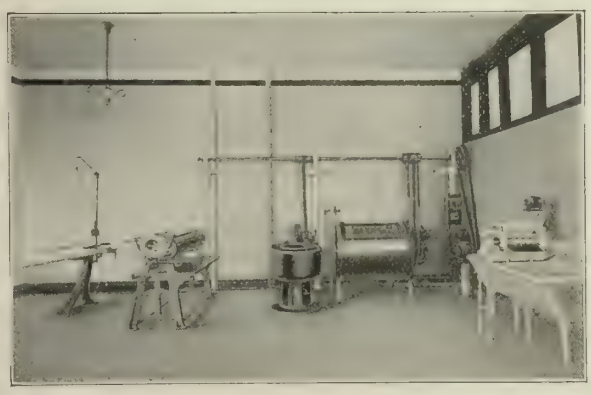

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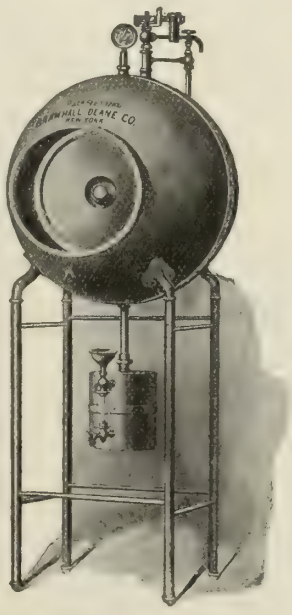

present the advantages of Simplicity of Construction, Maximum Durability, and Absolute Safety — Unfailing Sterilization and Perfectly Dry Dressings Assured.

Our Eclipse Door (the "fool-proof" door, as many experts have termed it) is one of the many exclusive features of these sterilizers. Our doors have no mechanical fastenings; they may be opened or closed instantly, without effort, and they cannot be opened while there is the least pressure in the chamber; hence there is never any danger of scalding or other injuries to the operator. There are four regular sizes of this dressing sterilizer and we are prepared to make sterilizers of any size or shape, always with the Eclipse Doors.

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in charge of the propaganda for the hospital is composed of Lieutenant-Governor Greenlund, Mrs. M. A. Hanna, Fred. Stecher, Mrs. W. M. Rhodes, Theodor Kundtz, and Mrs. P. J. McMyler.

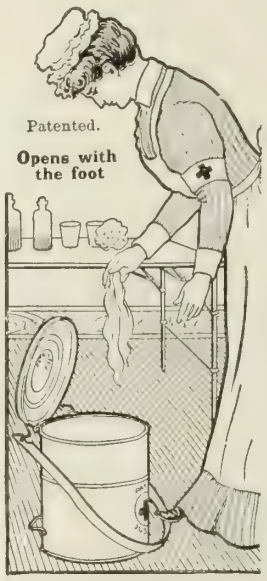
Canadians are in a ferment over a proposed innovation in that country—the institution of municipal hospitals. There are none now. In December the voters of Winnipeg refused to pay a debt of $275,000 for the Winnipeg General Hospital on the ground that it was a private institution, though it was admitted the hospital, supported by private subscription, had been taking care of the wards of the public at a price far below the actual cost. Now there is a proposal to establish two new municipal hospitals in Toronto, and thereby institute the municipal hospital principles. There is a violent protest, the chief objectors claiming that the move is made chiefly for the purpose of aiding favored doctors to obtain hospital opportunities. The Government of Canada has a supervisory authority over all hospitals in the Dominion, and subsidizes most of them under certain conditions. The Government officials are opposed to municipal hospitals on the ground that they are sure to come under local political influences.

Contrary to the usual custom, a neighborhood citizens' association has arisen in protest against the proposed removal of a hospital from the neighborhood. Columbia Heights' Citizens' Association, of Washington, D. C., has held mass meetings, and has raised its aggregate voice against the removal of the Northern Dispensary and Emergency Hospital from its present location at 3121 Fourteenth street, N. W. The good citizens say they have given over $3,000 toward the support of the hospital during the past year, that the institution is needed just where it is, and they want it kept there. Many people in various parts of the country are protesting against the location of hospitals in their neighborhoods. They might get into touch with this Washington citizens association, and change their minds. The loudest protester is Dr. Benjamin F. Gibbs, with Mr. C. C. Lancaster a close second. Either of these gentlemen would be able and willing to explain why a hospital is in every way an asset and not a liability in any community.

Lymanhurst, the new Children's Hospital at Minneapolis, was opened to patients the first week in February, and the removal of sick children from the city hospital was carried out gradually on account of the severe weather. Lymanhurst, situated six blocks from the City Hospital proper, is a beautiful place, ocupying 500 square feet in one of the most exclusive residence sections of the city, at Chicago avenue and Eighteenth street. The hospital was the gift of G. R. and F. W. Lyman, two brothers, who were retiring from business to live in California. There were two beautiful residences on the property, one of which has been altered into a hospital and the other retained for a service building and nurses' home. There are fine old trees and shrubbery on the grounds, and it is expected that it will make a wonderful place in which to care for sick children. Miss Lillian Miller will have charge, under Dr. H. O. Collins, superintendent of the City Hospital, and she is to begin with six assistants. The hospital, as at present arranged, will house 65 beds, with possibilities for extension to accommodate 100.

The University of Pennsylvania has received $2,000 from George H. M. Fadden, a Philadelphian, with which to purchase radium for experimental purposes in the treatment of cancer.

The JUSTRITE
Sanitary Waste Pail



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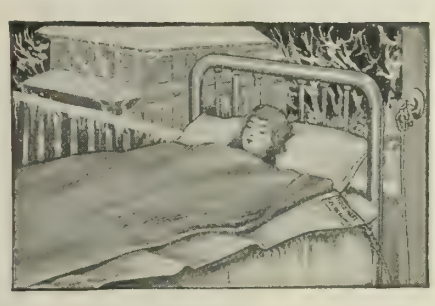

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36"x36"—3 heat Special Infants, 14-28-42 W	$10.00
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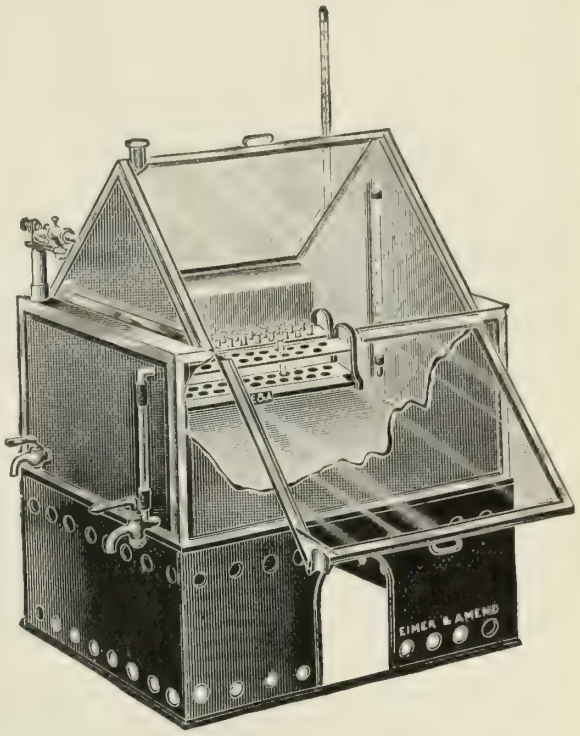

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This widely used bath is conveniently arranged so that the blood tubes can be easily observed without opening the door.

The glass gable top prevents the condensed moisture from dripping into the tubes.

The bath is equipped with metal temperature regulator, thermometers, copper racks etc., ready for use.

This and many other excellent apparatus for the hospital laboratory are described in our new Bacteriological Apparatus Catalog, Section 2, now ready. Write for your copy.

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ARCHITECTURAL AND BUILDING NOTES

The Baptists of South Carolina have bought a block of eight acres near Columbia for $15,000, on which they have planned to build a general hospital to cost $200,000. It is to be called the State Baptist Hospital.

St. Luke's Hospital, Cleveland, intends to build substantial additions this spring that will almost double its present capacity. There are to be new wards for patients who can pay a small fee and low-priced private rooms. Dr. W. B. Pickard says that the hospital has been compelled to refuse as many patients as it has accepted during the past year. When the new additions are completed, St. Luke's will have a capacity of 300.

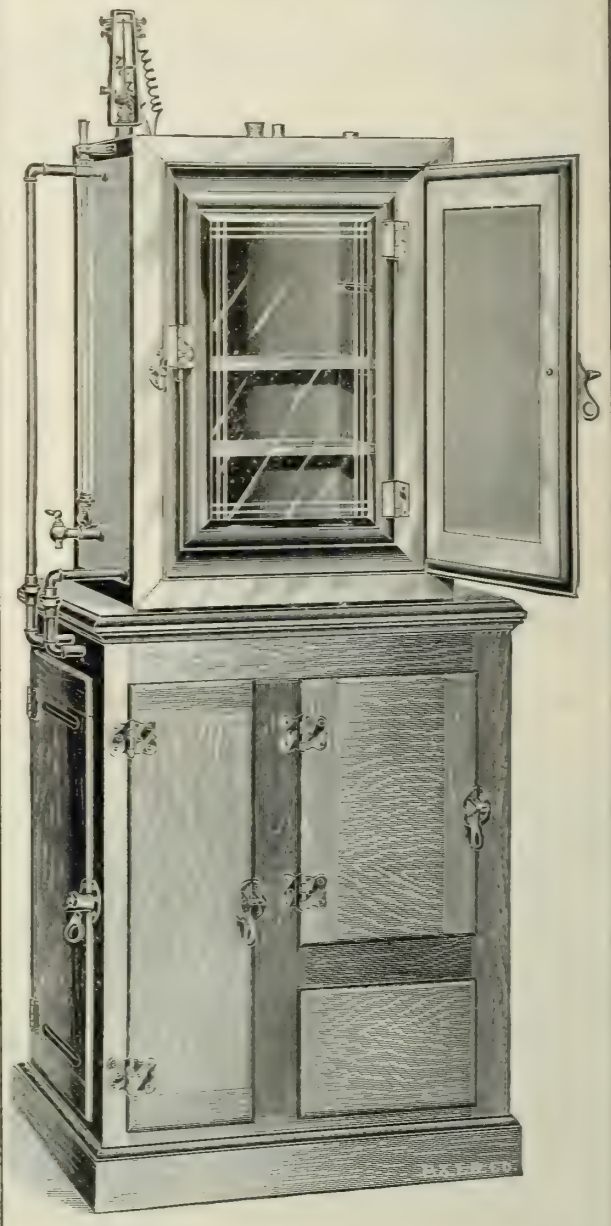
The Northern Hospital for the Insane of Washington, at Sedro Wooley, is building four new cottages and a service or domestic building. The administration building, also partly utilized for patients, was erected last year as the beginning of this, the newest of the state's institutions. H. A. Moldenhour, associated with Saunders & Lawton, of Seattle, who designed the original layout, are the architects for the present cottages.

Des Moines is at last to have a new hospital in keeping with the size and dignity of the city. For four years the city has been agitating the problem of a new hospital. Plans have now been made and approved for a three-story and basement brick building to cost $50,000. Only an administration building is to be erected now, with a limited number of beds, the intention being to add two or more wings later on, one for children and one for women.

Kalamazoo, Mich., is to have a new hospital to be devoted to the double purpose of caring for tuberculosis and contagious cases. There are to be three buildings, one for each of the above classes and a common service building. The present cost is to be $45,000, but the architecture will permit of additions as they may be needed. Mr. F. D. Van Valkenburg, of Kalamazoo, is the architect; Dr. A. H. Rockwell, secretary of the City Board of Health is chairman of the equipment committee, and Dr. C. H. Clark is chairman of the building committee.

The long-discussed hosiptal at Carlisle, Pa., is now to be realized. The architect, Mr. Edwin F. Bertolett, of Philadelphia, is now finishing the plans, the money is at hand, the site has been purchased, and building operations are to begin this spring. There will be one building for the present, 78x120 feet. The question whether the exterior is to be stone or brick is not yet settled, but the interior will be reinforced steel concrete, with hollow tile or expanded metal-plaster partitions. There will be a vacuum cleaner equipment, ice plant, electric lighting, low-pressure vacuum-controlled heating system, and electric elevators.

Giddings Low Temperature Incubators



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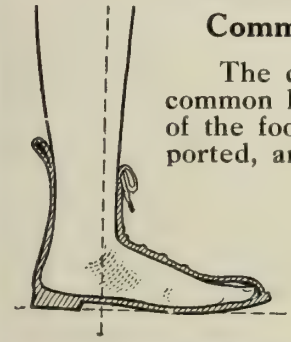
For Attendant and Patient

FOSTER ORTHOPEDIC RUBBER HEELS

The ZONE OF SILENCE rule is complied with *inside* the hospital when physicians nurses, and attendants wear FOSTER ORTHOPEDIC RUBBER HEELS. To the physicians making rounds, to the surgeon and his assistants who stand for hours on the hard floor of the operating room, to the nurse whose multitudinous duties often require her to walk many miles each day on floors of concrete, tile, or hardwood—to these and all others in hospital service the use of FOSTER ORTHOPEDIC RUBBER HEELS insures foot comfort, and foot comfort means increased efficiency.

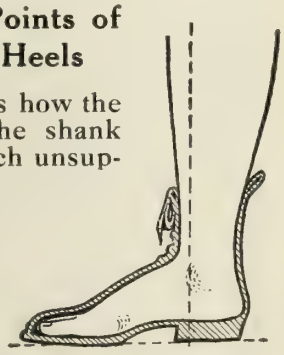
And let us not forget the PATIENT, for whom the hospital exists. After days or weeks in bed, the patient finds walking painful, the tendons and muscles of the feet are oversensitive, the strain of the upright position and the unusual exercise make the learning-to-walk-again period one of great discomfort. FOSTER ORTHOPEDIC RUBBER HEELS make convalescence easier, eliminate the strain, reduce the hazard of the misstep, because the Foster Friction Plugs make foot-slipping impossible.

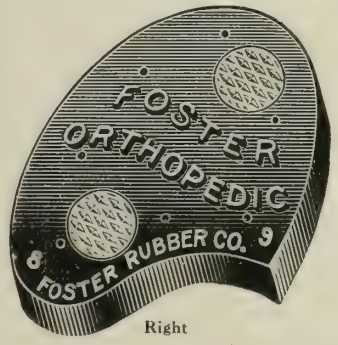


The Relation of the Leg and Foot to the Bearing Points of Common Heels and Foster Orthopedic Rubber Heels

The dotted line through the diagram on the left shows how the common heel lets the weight of the body break down the shank of the foot, crowding the heel to the rear, leaving the arch unsupported, and often wrecking the entire foot.

The diagram on the right shows how Foster Orthopedic Rubber Heels carry the weight of the body, extending down under the shank to prevent the arch from falling or the shoe from running over. They keep the position of the foot normal and natural.

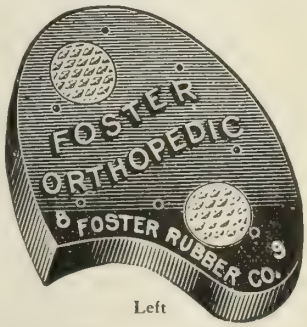




Right

Note the Foster Friction Plugs Which Positively Prevent Slipping

Safety first—then comfort, because the resilient, extra quality of rubber affords the needed protection from shocks and jars. The zone of silence is assured for the patient and the realm of comfort is realized by the attendant. They fit any shoe, and have demonstrated their efficiency wherever tested.



Left

75 cents attached. All dealers. By mail, 50 cents. Send outline of heel.

FOSTER RUBBER COMPANY

105 Federal Street **BOSTON, MASS.**

Originators and Patentees of the Foster Friction Plug, Which Prevents Slipping

Alterations and extensions of the Isolation Hospital at Worcester, Mass., are now nearing completion. Two entirely new buildings are being added to the six already in use, and these latter are being mostly doubled in size. The new buildings are one for domestic or service purposes and one a pavilion for patients. It is expected that as soon as the building is all done the name of the hospital will be changed, as the Board of Health of the city, which operates it, intends to utilize part of the institution for advanced tuberculosis cases as well as for acute communicable.

The Board of Trustees has announced the completion of four new buildings for the Jewish Home for Chronic Invalids and Tuberculosis in St. Louis County, Mo., located in the country, a few miles from St. Louis. The cost of the present structures is $120,000, and they are intended to house 100 patients. The buildings are of gray brick, granite facings, tile and hard plaster partitions, concrete and terrazzo floors, and composition roofing. One small cottage is of frame, with wood flooring. W. M. Levy, of St. Louis, is the architect; Colonel Moses Schoenberg, chairman of the building committee; and Louis Straus, chairman of the equipment committee.

The new King's Daughters Hospital now nearing completion at Norfolk, Va., at a cost of $85,000, to accommodate 80 patients, marks the achievement of one devoted women who had an ideal and plenty of staying power. Seven years ago Miss Florence E. Leslie, R. N., went to Norfolk from her home in Canada to take charge of a 7-bed hospital for the King's Daughters. She began at once on plans for the new hospital, but she did it by making herself and her little 7-bed hospital invaluable to the people. She made friends rapidly—she and a devoted coterie of willing workers. And so it came about that when Norfolk needed more hospital accommodations, Miss Leslie was given the opportunity. A unique feature of the new hospital is the separate, yet convenient, arrangement by which white and colored patients are handled; the buildings are separate, yet so closely connected that the administrative expense will be reduced to the lowest amount.

The new Children's Hospital now under construction on Kingshighway, opposite Forest Park, St. Louis, and intended to be conducted under the auspices of Washington University Medical School, promises to be one of the most complete institutions in the country. Mauran, Russell & Crowell are the architects, Dr. S. S. Goldwater was consultant on the Barnes Hospital adjoining, and Mrs. R. McKittrick Jones is president.

The hospital is to cost, complete, $225,000, and will contain 150 beds. There are to be three connecting buildings, all for patients, as power plant, kitchens, dining rooms, and all administration are taken care of by Barnes Hospital. The building is of light-gray brick and reinforced concrete, with tile inside walls and partitions, composition roofs, and composition floors. The elevators are to be two in number, of the automatic push-button kind, and the signaling device will be the musolaphone loud-speaking telephone system, invented by Mr. Bacon, of the Presbyterian Hospital, Chicago. There are to be lecture halls and teaching rooms for students, and one-third of the space is to be for infectious cases.

Oxford, Cal., will soon have completed the new St. John's Hospital at a cost of $65,000.

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Examine woodwork finished with Linduro Enamel and you'll find the finish so fine and smooth—the color so clear—the whole appearance of such immaculate and spotless cleanness—that you'll instinctively comment "isn't it beautiful?"

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Lowe Brothers
Extra White Enamel

is another thoroughly good enamel. It shows no yellow cast when applied and holds its whiteness even under extremely trying conditions. *Don't forget quality* in buying enamel—it is the only true economy.

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You'll find a lot of interesting and practical information on enamels in our book *"About Interiors."* Write for a copy of it today.

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Toronto, Canada

THE MODERN HOSPITAL

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NEW MONTEFIORE HOME FOR CHRONIC INVALIDS

Special Architectural Arrangement Designed for Utility and New Features to Meet Definite Needs of Particular Classes—Country Home for Convalescents.

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THE Montefiore Home is an institution for the care of chronic invalids, who receive not only shelter and food, but treatment along hospital lines. It differs for that reason from the general hospital in one respect, and from the usual conception of the home in another. The arrangement of the buildings and the individual wards are, therefore, a combination of a hospital and a home.

The architects were Arnold W. Brunner, Buchman & Fox. The consulting hospital expert was Dr. S. S. Goldwater, and the author furnished to the building committee the detailed arrangements as they evolved from an experience of twelve years in the old Montefiore Home.

The group of buildings comprises the administration, which contains the offices and living rooms for the officers and medical house staff in one half and the nurses' quarters in the other. The service building contains the power plant, the kitchen department (including dining rooms, refrigeration, etc.), laundry, and linen room. The synagogue has a capacity of about 250 seats. The dormitory, with the workshops in the basement, can house 160 employees. The patients are distributed over four pavilions. The central pavilion is the largest, and consists of four stories and basement. The east and west pavilions consist of three stories and a basement each. The south pavilion is a structure 340 feet in length, with only two stories and basement. All buildings are connected by covered corridors, and the medical director's house stands on the other side of the street.

The construction is fireproof, consisting of a reinforced concrete skeleton, hollow-tiled walls, and tapestry brick facing, with limestone trimming, built in colonial style. The floors are made of kompolite in all wards and corridors, and of hardwood in most of the offices and living rooms. The power plant generates steam and electricity, and takes care of the refrigerating system, which comprises the cold storage rooms and pantries in the various wards. The heating system, designed by the consulting engineer, A. M. Feldman, is of the circulating hot-water type, with single pipes. Artificial ventilation was not installed, with the exception of a few large rooms, such as meeting rooms, lecture halls, synagogue, etc. Hydraulic elevators are installed in all buildings and separate stairways.

The ward units are 56 beds in the central pavilion, 25 in the east and west pavilions, and 30 beds in the south pavilion. The central pavilion houses such patients as, by nature of their disease, require more nursing and care than constant medical attention. It is for this reason that the ward units are rather large, and the east and west rooms contain 16 beds. The south room of this T-shaped building contains 12 beds, the rest of the ward consisting of several small rooms with 2 or 4 beds each. The central pavilion has certain features which are necessary for the comfort of the patients. Along the walls of the halls wooden railings are fastened at a convenient height, for the double purpose of protecting the walls from the wheel chairs and supporting those patients who can walk, but are unsteady on their feet.

A great part of the toilets is provided with

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Fig. 1. Montefiore Home—Administration building, main entrance.

grip handles or supports to enable wheel-chair patients to rise easily from their chairs and make them somewhat independent of the nurses. The central pavilion, among others, houses locomotor ataxia patients, and for their benefit one of the large south rooms shows such diagrams and foot prints inlaid in the floor as are used in the "Frenkel exercises." The bath rooms in the central pavilion, as well as throughout all the buildings, show a few characteristics. The tubs are on legs 12 inches high, flanging out at the bottom, so that the floor can be cleaned easily. The height of the legs is a great convenience for the nurses, both in handling patients and in cleaning the tubs, and cleaning under the tubs is also greatly facilitated. The hot and cold water faucets cannot be turned on by the patients once they are in the tub, as the handles are fastened to the wall quite a distance from the tub. This arrangement was made so as to avoid repetitions of rather unwelcome occurrences where weak or paralyzed patients took advantage of an unwatched moment to turn on the hot water and were either scalded or overcome by the hot vapors, the occurrence sometimes ending with disastrous results. Another precaution is a call bell hanging from the ceiling to the tub.

The central pavilion is further characterized by numerous large and spacious day rooms, two on each floor, so as to give inmates the opportunity of grouping themselves according to age, education, nationality, and along other lines they may select. The elevators go to the roof, and it is the intention to use the roof garden exten-

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Fig. 2. Montefiore Home—South pavilion for consumptives, with balconies.

(Copyright Wurts Bros., 1913.)

Fig. 3. Montefiore Home—Northwest view, showing administration and service buildings and medical and tuberculosis pavilions.

sively for outdoor sleeping. In addition to this roof garden there are two large balconies on each floor, which can be reached from the day rooms.

An occupation and work room is provided for those of the invalids who can do a certain amount of work. For the 30 children of the home, a school room and a play room were built. The occupation room and the play room are on the level of the cement walks of the surrounding grounds, so that our wheel-chair patients and those who walk on crutches can enjoy the grounds just as well as those who have control over their lower extremities. The drug department is also located in the central pavilion.

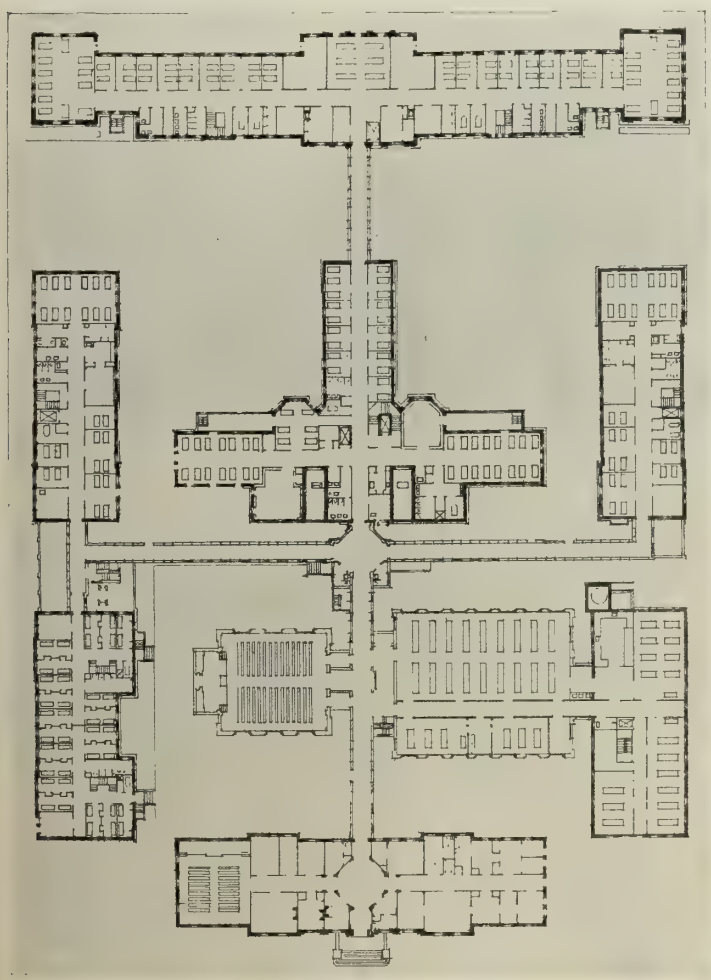

Fig. 4. Montefiore Home—Block plan, with corridors connecting all buildings.

The east and west pavilions might be called the hospital divisions of the home, the idea being that such cases as are more in need of medical or surgical treatment are to be admitted or transferred to these pavilions.

The west or medical pavilion contains two floors for 25 beds each; the largest room has 12 beds, and the others have 2 to 4 beds. On the second floor a small metabolism ward, with a special diet kitchen and nurses' office, is established. The basement is occupied by the morgue, autopsy room, and funeral room under the northern part of the building. The southern part contains the x-ray department, the room for the electro-cardiograph, and room for pathological collections.

The top story contains the laboratories, which consist of departments for pathology, bacteriology, physiological chemistry, and cancer research. On the same floor are a few rooms set aside for isolation and contagious diseases.

The east pavilion might be called the department for drugless treatment. It contains 50 beds, equally divided for men and women with surgical or orthopedic diseases. The top story contains two operating rooms, with accessories, an orthopedic operating room, and a dental room. The medical library, which is used also as a lecture and demonstration hall, is on the same floor.

In the basement are the rooms for physical

treatment—that is, a Zander room, with a considerable collection of apparatus, a well-equipped hydrotherapeutic department, a room for electric baking apparatus, and a room for electrotherapy. One room is reserved for treatment with radium emanations, but is not yet equipped.

The south pavilion was set aside for the more advanced stages of pulmonary tuberculosis, as the incipient cases are sent to our country sanitarium. The arrangement of the rooms consists of two floors, with 60 beds on the lower floor and 64 beds on the upper. On each floor there are two large rooms for 12 beds on either end of the building, and the remainder of the rooms contain two beds each.

There are no single rooms. If in one of the small rooms a patient is near the end, we remove his roommate temporarily to the large ward. Balconies extend over the entire south front of the building, and all rooms, including the day rooms, open out onto the balcony, so that all beds can be wheeled out. The upper story recedes about three feet, so as not to obstruct the light in the rooms of the lower floor. This system is usually called the Sarason or terrace system.

The food for the tubercular patients is prepared in the central kitchen, sent through the covered corridor to the south pavilion, and served in a special dining room or at the bedside. The dishes never leave the south pavilion, and are sterilized after each meal. The linen is also sterilized and washed in the south pavilion, and sent to be mangled to the central laundry. Grounds reserved for the tubercular patients are divided off by an iron fence from the main part of the institution.

From the block plan and the description it can be seen that the Montefiore Home buildings are essentially a modification of the pavilion system, inasmuch as the different buildings are separate and isolated for all practical purposes, but connected by corridors. These covered connections, which the architects have succeeded in making very attractive, are an interesting feature of the new Montefiore Home.

The pipe tunnels are under the bottom of the corridors, and these latter have three floors or levels. The basement level represents the service corridor for the use of deliveries, laundry trucks, food trucks, transportation of dead bodies, etc. The main floor is intended for what might be called passenger traffic—that is, for patients, nurses, physicians, visitors, officers, etc. The top floor represents a roof garden, protected by a railing, and, being an open-air connection of all the buildings, it can serve the purpose of a fire escape. With this provision, in addition to all the balconies, the open grounds, and the roof of the central pavilion, the patients have two floors of long corridors for exercise, and they are allowed to use the covered part in bad weather.

The friends and relatives of our patients are allowed to visit them on three days of the week, and, in order to avoid a congestion of the administration building on such days, a separate entrance was built for them on the eastern front,

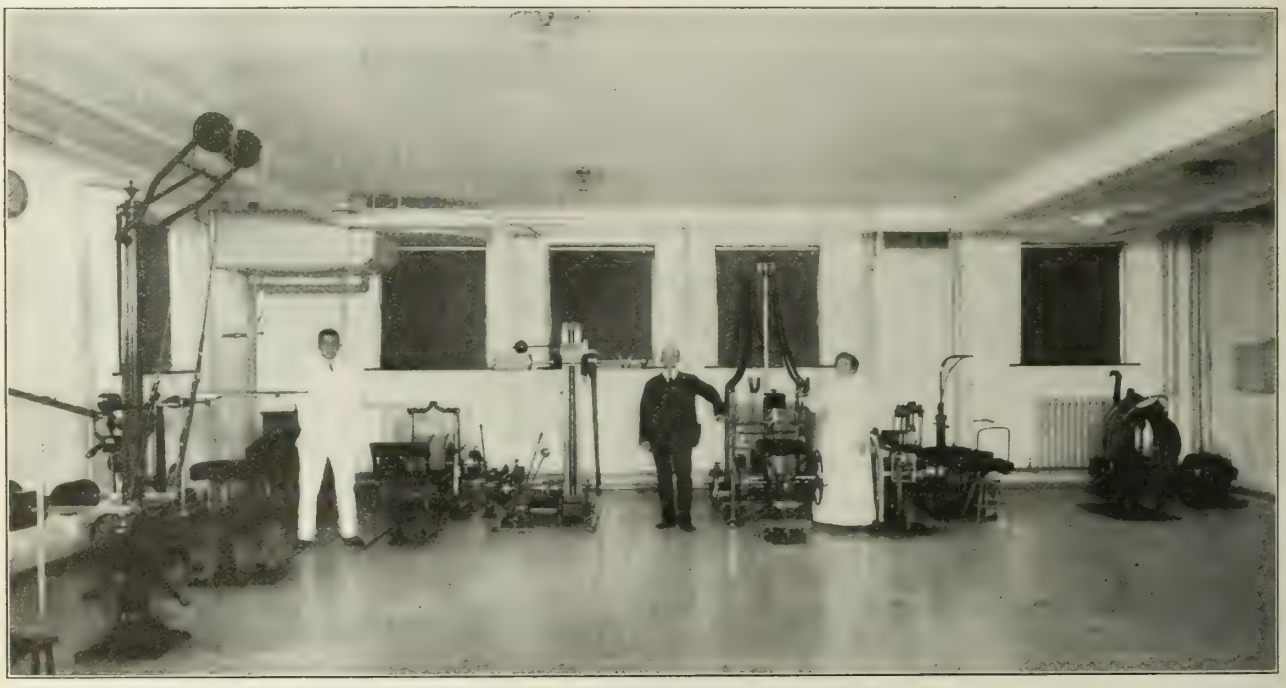

Fig. 5. Montefiore Home—Mechanical exercising room and Zander machines.

and a large waiting room is situated between the employees' dormitory and the east pavilion. The visitors, who cannot always accurately gauge the time of their arrival on account of the great distance from the east side of the city, where most of the visitors live, are admitted to this waiting room on rainy or stormy days to await the bell announcing the visiting hour.

The cost of construction of the new Montefiore Home amounts to $1,750,000, exclusive of the grounds, thus making the cost per bed, inclusive of equipment, less than $4,000. This cost will be reduced in proportion to the increase of beds which will become necessary in the course of years. The institution was built with a view of such an increase, and the foundations were made strong enough for additional stories. The engine room, kitchen, storage rooms, and employees' quarters are large beyond the present needs, and therefore, in order to increase the capacity, only one or more stories will have to be added to the ward buildings at a very small cost.

The institution had to move from its old quarters because the neighborhood had become so populated that our patients were inconvenienced by the proximity of the surrounding buildings and by the lack of grounds. The present property is located in the most northern part of the city, which is not built up to any considerable extent, but no doubt, with the extension of the subways and elevated road, history will repeat itself, and we will some time in the future be surrounded by the growing city. For this reason the entire group of buildings is surrounded by a section of park 60 feet wide. The narrowest width of the surrounding streets is also 60 feet, and therefore the nearest building in the future will be not less than 120 feet from our wards. As an additional precaution, the lots opposite our south front, where the tuberculosis pavilion is situated, were purchased and cannot be built up. The institution owns two more plots east of the present buildings, and one of these plots will be occupied by a private pavilion for 50 beds to receive pay patients with the diseases of the same type as are treated in the main institution. The per capita cost of Montefiore Home has always been extremely low, it having been less than $1.10 per patient. The new institution is very much larger, is spread over a much larger area, and is provided with greater facilities for treatment and care of the patients, and therefore it is to be expected that the per capita cost will be somewhat higher than formerly.

THE FUNCTIONS OF A MODERN HOSPITAL.[1]

Plea for the Creation of a Broad Community Health Center Organized and Conducted Around a Competent Hospital—Its Economic and Social Values.

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IT is a matter for surprise that the city of Duluth, a city of 80,000 to 90,000 inhabitants, the head of navigation, the port of entry and exit for the great chain of the Great Lakes, the zenith city of a state whose polar star guides men inerrantly in the paths of progress, has no modern public hospital. I say public hospital, advisedly.

There are four types of hospital to be found in the large centers of population at the present day:

1. The small special hospital, owned and controlled by one or more private physicians, for the benefit of private patients, by whose fees the hospital is supported; a purely business and professional enterprise, a distinctive type, of distinct usefulness to certain classes in the community.

2. The private general hospital, pseudo-public in its social relations, usually under denominational control; as a rule, but partially and imperfectly endowed; its current expenses met, in the main, by the fees of pay patients, but too often winding up its fiscal year with a deficit to be wiped out by private subscription. Occasionally this type of hospital, of which the city of Duluth has two in operation and a third in process of planning or construction, serves the city or the county by its endowment of a few free beds or by carrying a public contract for the care of indigent patients at a small charge. This experiment is but temporary and fortuitous. If the hospital is full, the free patient becomes an embarrassment to the pay patient; if it is relatively unfilled, the city beneficiary seldom receives the care and the treatment that are bestowed on the occupants of pay beds. In a word, such a hospital is outside of its proper field in attempting a public duty for the discharge of which it is organically and functionally unfit. The contractual care of the sick in such an institution is a doubtful asset to the hospital and a still more doubtful benefit to the subject of such care. The multiplication of such

[1] An address delivered at the civic banquet of the Women's Council of the city of Duluth, Minnesota, January 19, 1914.

hospitals, like the multiplication of churches of many demoninations, is an economic mistake. They should be limited to public need, as established by their capacity for self-support. They are simply hotels for the accommodation of the paying sick, their charges proportioned to the quality of accommodation desired.

3. The teaching hospital, in the possession of which the University of Minnesota is wellnigh unique; the primary purpose of which is the practical education of students of medicine and trained nurses; the secondary uses of which are economic, providing, as it does, for the free care and treatment of the indigent sick coming from all parts of the state. The dual function of the hospital of this type carries with it, of necessity, a high per capita cost. Its service is the nearest possible approach, socially and scientifically, to the ideal.

4. The modern public hospital, maintained by tax levy, under municipal or city and county control, for the benefit of the unfortunate sick, who, through temporary financial stress or permanent disability, are unable fitly to care for themselves. This is the type of hospital of which the city of Duluth has none.

Initial efforts to meet the demand, which grows with the growth of a city, for the care of its indigent sick, worthy as are these efforts in intent, are usually of a makeshift order and abortive of desirable results. They are put forth under pressure of need at specific points, and the point of maximal pressure is usually on the impulse of fear. The community seeks protection for itself from diseases of recognized contagious quality. The city of Duluth long ago reached the stage of growth at which many such points of pressure for relief have been felt, and they have resulted in the temporary use or the creation of a number of incongruous, dissociated, badly organized units of inefficiency.

A contagious hospital at one point, under one form of control; maternity cases at a number of points of inadequate care and housing and under several agencies; sick children provided with scant and haphazard quarters in poor-house, in overfull private hospitals, or in undesirable, so-called "children's homes;" a dislocated and unorganized dispensary for tuberculous patients, supporting an uncertain service by grace of one or two overworked public officials; cases, many, of acute disease and accident, seeking shelter here, there, anywhere, and sometimes finding it nowhere; this is the many-chaptered tale of the hospital history of Duluth, a common story of subdivided forces, of dissipated and misdirected energy, of fractionized and insufficient funds, of a poverty of results in social service, of failure to do, in any decent degree, full and even-handed social justice to the victims of misfortune. These are the conditions which suggest the crying need of a public hospital system in this community.

In seeking a full and fair definition of a public hospital, it may be well to proceed by a process of exclusion, and to ascertain, first, what a public hospital is not or ought not to be.

First, it is not, or it should not be *a political machine*, or a part of a political machine—a statement that would seem to go without saying. Yet, throughout this country are to be found public hospitals whose administrators and their subordinates are appointees under political dictation, whose resources are diverted into the channels of political graft, whose normal functions are perverted by political control, whose progress is continually hindered by the dreadful obesity of political inertia.

A preventive of this deplorable tendency is to be sought and found in the creation of a nonpolitical—not bipartisan, not multipartisan—but a nonpartisan board of management, named by the highest and most unprejudiced appointive power within reach. In the city the mayor and in the county the full bench of district court judges would probably approach most nearly this quality of selection.

Second, a public hospital is not *a charitable organization*, an object of philanthropy. How long it takes for men and women to get away from the dogma of "good works" as a means of saving grace; from the flattering unction, laid to their souls, that charity—not the charity which is love, but the charity which is largesse—inures either to the benefit of the receiver or to the salvation of the giver! The creation of a public hospital is one phase of a social service which is based on the doctrine that all men are brothers. It is religious only in its corollary that all men are the children of a common Father.

More is it than a mere suggestion of the emotional sentiment of the French people—it is a mark of their sensitive sympathy, of their keen imagination—that they call the public hospital the Hotel Dieu. I fancy that the generation of Frenchmen—or, more likely, of French women—that coined this beautiful name was inspired by the story of that Friendly Inn on the road to Jericho, to which the neighbor of the man who fell among thieves—the neighbor, mark you—not the philanthropist, not the dispenser of charity, not the giver of millions who counts himself the instrument of Providence for the distribution of his, perchance, ill-gotten gains, but the *neighbor* carried the poor fellow who had been beaten and

wounded and left for dead, so that in that Inn of God he might be helped and healed.

The public hospital is a piece of the mechanism of the balance of social justice. It is a home for the unfortunate, for all the unfortunate who are sick or injured and unable, for the time being, fitly to care, or to provide care, for themselves.

Lifted above the level of politics, held as of higher office than that of charity, approached as a problem in social welfare, the development of a public hospital must be undertaken on broad lines. It is not really a hospital, but a hospital system that you have to consider and to create. You may have to face a scarcity of funds, a meager share of the tax levy; you may lack endowment; you may have to devise some special mechanism of support; some local limitations are there that must be met; yet, with faith in your city and its power of growth, confident of the support of a fruitful country around you, it behooves you to face this problem with a sense of its full proportions, to plan and to build for posterity as well as for yourselves, to organize a future hospital system, full-limbed in all its parts, from the beginning.

Whether it shall be a city or a city and county hospital system is not a matter of politics, but a matter of efficiency; not a matter of expediency, but a matter of ultimate usefulness. Under joint control and for the joint benefit of both city and county, you may achieve a hospital system of more widely extended service, of broader lines of development, of maximal results secured at reasonable cost. Observe, at *reasonable* cost; for a minimum per capita is not compatible with the generous care and the able treatment which the principle of social justice demands.

Of what must such a hospital system consist? When Nature goes to work in the making of a man, she puts the primary emphasis on his supplies system. The completion of bony and muscular structure she postpones until after birth. The brain of the new-born she leaves but an unmapped chart, its lines of communication and its associative centers awaiting the development of functional use. But his digestive tract, his liver and spleen, the glands whose output or internal secretions govern his growth and nutrition, she builds in major mass and to perfect reactions. She takes care of his commissariat; she establishes his base of supplies as does the chief of an army that goes out to war. So, in the building of a hospital system, you must begin, not with pavilion for patients, not with wards and beds, but with service buildings around which and articulated with which the entire group must be planned. Food storage and refrigeration, food preparation and distribution, a machine laundry service, the headquarters of stewardship and the housing of help and nurses—the mechanisms of these constitute the agencies of hospital support, the digestive and circulatory organs by which the hospital system is to be maintained. Not less than three buildings for general service, for laundry, for kitchens, for domestic housing, and for a nurses' home belong in this central unit group.

The forces of general administration should be the next subject of study. A place for the admission of patients, headquarters for superintendence and accounting, and the means of intercommunication between the several units of the system, must be provided, either in a separate building or in a principal unit of the clinical group.

The priority of the members of the hospital group proper must be determined by conditions of local need, and in determining this question the choice of a cottage, pavilion, or mass type of hospital building must be settled. In municipal institutions preference is usually given to the last, or the several-storied form of structure, in which either underground or overhead corridors of communication may be minimized.

Ordinarily, acute general diseases, emergency cases, and accidents determine, by weight of numbers, the selection of the first hospital units. At once the question of isolation wards presents itself, since the very sick, the dying, and the sporadic contagious patient must be isolated in any department of the service.

The contagious hospital unit, wing, or ward claims attention in any city. Too often, as in the experience of Duluth, it forces premature provision to be made for itself, in independence of any general scheme or plan. No longer is it considered necessary that the contagious service shall be set far apart from its sister units of the hospital group. The modern sanitary treatment of contagious disease has largely eliminated the quarantine method, and even in hospital cubicals is it possible to control cases of differing type.

The children, the many children, of the great city, in circumstances of penury and neglect—waifs, even, and strays among them—who, with the imperfectly acquired immunities from disease incident to their age, suffer the added dangers of ignorance, bad housing, and poor food, are the ready objects of awakened public sympathy. The most valuable assets of human society, in that they hold the hope of the future in their tender hands, the extent of the mortality among them, and particularly in infancy, is the most alarming fact in our vital statistics. Often has the specter of race suicide been reared before the American

people, but the real suicide of the race is in the aggregate of infant deaths and not in the decline of the birth rate. Save the babies that are born to us and we need not greatly concern ourselves with those that are not. In the saving of child life we save the potentialities of society. The treatment of the children of the city should receive that early and distinctive consideration which it deserves.

The heavy burden of maternity, in the long sacrificial past of womanhood, has fallen with heaviest weight on the mothers of the poor. In their homes the dangers of child-bearing are multiplied, and the number of still-births and of disasters to the new-born is relatively great. Among all classes of the people, and particularly among those of humble and limited means, the hospital is coming to be regarded as the ideal haven of maternity expectants. Surely no phase of the doctrine of conservation is so momentous as that which protects the mother and the babe.

A hospital system is not complete without its out-patient service for the care of the ambulatory sick. These walking cases of illness in a great city are many and variant, and their study suggests not only the scientific, but the social values of early diagnosis, speedy relief, restoration to usefulness and self-support, and of occasional reference to the hospital wards for extended care and treatment. The establishment of a dispensary sometimes meets with opposition from local physicians, but it is an opposition inspired, not by the leaders, but by the hangers-on of the medical profession, who alone have to fear the loss of revenue from a clientele that yields precarious and hard-wrung returns for the treatment it receives.

The tuberculosis clinic has passed from the stage of its development in which it was a professional prescription for the public good, to that stage in which it is a definite social demand. The tuberculosis unit of a hospital system of a great city should be a combination of out-patient clinic and open-air pavilions. It must remain true for a long time that many more infected persons must remain under instruction and supervision in their own homes than can be cared for in any form of tuberculosis hospital. As a concession to popular prejudice, it may be necessary to remove this unit from the main hospital group. Such removal is not a matter of moment, so far as medical control is concerned. The desiderata of treatment are pure, dry air, outdoor living by night and by day, generous dietary, ample area for graduated exercise, and open-air occupation.

The great white plague, a house-born disease, invited by air-hunger, preventable and possible of suppression, remains a menace to multitudes and a reproach to modern civilization.

In every large and well-ordered community a detention hospital should be maintained for the temporary care of the mentally unbalanced or diseased. It is not well to place the stigma of official commitment to a state hospital for the insane on every case of mental disturbance which cannot be controlled or safely cared for at home. Many of these unfortunates may be wisely placed under observation in a detention ward for a limited period, and some of them will respond favorably to the influences of medical treatment, good feeding, rest, and seclusion.

The problems of type and of capacity of the units of a hospital system are usually local ones. Not only to serve the present, but to forecast the future need, should be the guiding principle in their solution. The command of ample land area, the allotment of adequate space to each unit, the adaptation of plan to the possibilities of extension, the provision of the means of ready intercommunication, are essentials to be secured.

Such a modern public hospital system, devoted exclusively to the care of the unfortunate sick who are unable to pay for care and treatment, is an investment which yields substantial returns. Jails, penitentiaries, insane hospitals, homes for defectives, poor-farms for chronic cases and decrepit persons, are straight liabilities. Reform schools, reformatories, rescue homes, orphan and foundling asylums are liabilities, offset by a measure of indirect return in the exceptional betterment of their inmates. But a general public hospital is an asset. The number of waifs and strays, of chronically idle poor, is not great in the cities of the West and Northwest, but the number of those for whom the line between a mere living and indigency is a narrow one is very large. Personal or family illness reduces many, by swift steps, below the possibilities of decent self-support. To give to these unfortunate sick hospital housing and skilled treatment that will save life to the most of them, that will restore health speedily and thus lighten the community-burden of their care, that will lift them once more to the level of the wage-earner, that will bring them back to social usefulness, is to render a social service which is of greater value to the community than it is to those whom it directly benefits. To save and to extend the term of human life, to restore health, and to recover social usefulness to the sick are economies.

But the role of the public hospital, as a social asset, does not stop there. It should serve as a public health center. An inquiry bureau should be organized in relation to its ward and dispen-

sary service. Institutionally trained nurses should be in charge of this bureau, and forth from it should extend the radii of visiting nursing, reaching the homes where the sick are, or whence they have come; investigating the sanitary conditions of these homes; probing, and teaching the prevention of the causes of disease.

This valuable extension service is but a part of the educational function which the public hospital should fulfill. It gives the opportunity, always, for the institution of a school for nurses, which should be of high grade. The size and the varied quality of such a public hospital service makes it an exceptional training ground for the nurse. The school for nurses should be under the direct control of the medical staff of the hospital, or should be closely affiliated with a neighboring medical college.

In the state of Minnesota public hospitals have an opportunity of affiliation with the Medical School of the University of Minnesota as clinical laboratories for senior interns, who are now required to take a seventh or clinical year in an accepted hospital service before receiving their degrees.

It is the high calling also of the public hospital to serve as a graduate college of the medical profession. The patients of such a hospital should be expected to give only the *quid pro quo* of an opportunity of medical study which will enlighten the physician and will enhance his usefulness to the community. The mechanism of this opportunity, for the benefit of patient and physician alike, must be provided in the laboratories of the hospital, manned by salaried pathologist and chemist, who may constantly pursue the work of investigation alike in the living and on the dead.

Surely these are large offices which the public hospital should fill, from the exercise of which large benefits must flow forth to the community it serves. To lessen the sum of human suffering, to lengthen the term of human life, to level up the inequalities of fortune, to widen the range of human knowledge and experience, to teach the lessons of social uplift, self-helpfulness and development, to light the way to larger discoveries for the benefit of humanity—these are the functions that attach to this greatest of enterprises in civic betterment.

The call of the new spirit of social service is in the invitation to this great public venture. It is the old, age-long call of human brotherhood, the call for the coming of the Kingdom of Heaven upon earth—a call that will be answered, a kingdom that will come, not only with the message and on the wings of peace and goodwill, but through the practical outworking of the last full measure of social justice. There is an old legend of the East, the story of a Master in Israel, a convert of the early Christian Church, who shared with the communion the expectation of the speedy second coming of the Lord. He had heard that, when He first came, "the Son of Man had not where to lay His head," and he built Him a house. Brilliantly he lighted it, beautifully he decorated it, sumptuously he furnished it; he equipped it with the finest of fine linen; he swept and garnished it day by day, and he waited for the coming of the Great King. Week after week and year after year he waited and prayed; and, at length, one day he saw a multitude coming—a multitude of the lame and the halt, and the blind and the sick, coming up the highway and passing through the great gate and up the marble steps of his mansion. And he went out to meet them and said: "Who are these, and whence came they?" And a voice answered, "These are My mother and My sisters and My brothers. They and you, even as I, are the children of the Father. Let them enter in! For inasmuch as ye shall house, or heal, or help, or comfort, or give but a cup of cold water to these, my brethren, ye shall have done it unto Me."

COMMON CARRIERS OF INFECTION.

New York Health Department to Enforce Laws on Drinking Cups, Roller Towels, and Free Lunch Forks.

The New York City Board of Health is after violators of the regulations in regard to common drinking cups, roller towels, and free lunch forks. The bulletin on the subject in the weekly publication of the health department is as follows:

"Attention having been called to the fact that the Board of Health regulations with respect to common drinking cups and roller towels are not being observed as they should be, Commissioner Goldwater is taking steps to secure fuller compliance with the department regulations. Letters have been sent to those found violating the sections of the sanitary code with respect to drinking cups and roller towels, warning them that a continuance of the offense will render the offender liable to arrest and prosecution.

"In this connection it may be stated that the department is also contemplating action against the use of common forks at the saloon free lunch counters. Investigation has shown that forks used by one person in eating from a common dish—food such as hash, potato salad, sauerkraut, etc.—are returned after using to a glass containing some cold water only, to be picked up and used in the same way by succeeding persons. This very personal tool comes into more or less intimate contact with the saliva of the mouth and the mucous membrane of the tongue and lips.

"In view of the fact that disease-producing bacteria, some of them a most virulent kind, may be present in secretions of the mouth and throat, it is deemed important to prohibit this common use of such eating utensils. In an examination of the common barroom fork, undertaken sometime ago in Louisville, disease germs were found in thirteen out of sixteen specimens examined. It is suggested that the food at such lunch counters be prepared beforehand in the form of sandwiches, etc., and handed out to the individual, or else each customer be given food on a plate with individual utensils, and that these utensils be thoroughly washed after using."

STANDARDIZATION OF HOSPITAL PLUMBING FIXTURES.

Items of Perfection in Surgeon's Mixing Valve Are Perfect Control, Ease of Cleaning, Simplicity of Mechanism and Operation.

By WILLIAM B. STRATTON, Detroit, Mich.,
FELLOW AMERICAN INSTITUTE OF ARCHITECTS.

THE architects in attendance at the hospital section of the late convention of the American Medical Association at Minneapolis agreed that a statement of desirable qualities in hospital equipment, regardless of appliances now on the market, would be very desirable.

Such a tabulation of results desired, compiled and agreed upon by the various professions interested in hospital construction, would, no doubt, result in standardization of and general improvement in all lines of hospital fittings. That the trade would respond promptly, there is no question. The use of a standard type of fixtures, while resulting in greater economy, would, no doubt, encourage and make more automatic the maintaining of necessary surgical and nursing technic. For example, a surgeon operating in another institution could go more directly to his work if he found the familiar fittings that were used in his own operating room. It is reasonable to think that the time will come when such uniformity will extend throughout all thoroughly equipped institutions.

To illustrate the question in point, I am giving below a statement of results that seem desirable, and the steps taken to obtain them, in the matter of surgeons' lavatories for the Detroit General Hospital.

Requirements: 1, perfect control and grading of full range of temperature; 2, ease of cleaning fixtures; 3, minimum liability of the fixture getting out of order; 4, simplicity of parts and ease of repair.

The elbow action type was selected as the one which is most universally used, and seems to be giving the most perfect satisfaction. There are no rods, complicated piping, or other unhandy mechanism, the lever handle working directly on the valve itself. In order to test the action of the valve itself, eight different fixtures were set up. Two of these were stock, foreign fixtures, and six American manufacturers kindly arranged their apparatus in the lever form. The results are shown in the accompanying diagram (Fig. 1).

Fig. 1 is an Austrian fixture, Fig. 2 German, and the balance American. As will be noted from the diagram, Figs. 1 and 2 gave very satisfactory results as to the gradual change of temperature; Fig. 3 is perfect; Figs. 4 and 5 show average results obtained from the balance of the valves.

The actual impression given by using these latter valves (Figs. 4, 5, etc.) is: starting at full hot, the temperature at a certain point drops suddenly to warm and at another point, with very slight movement of the lever handle, drops suddenly to cold, giving, instead of a gradual change of mixture, three distinct temperatures. The effect of these sudden changes is very disagreeable.

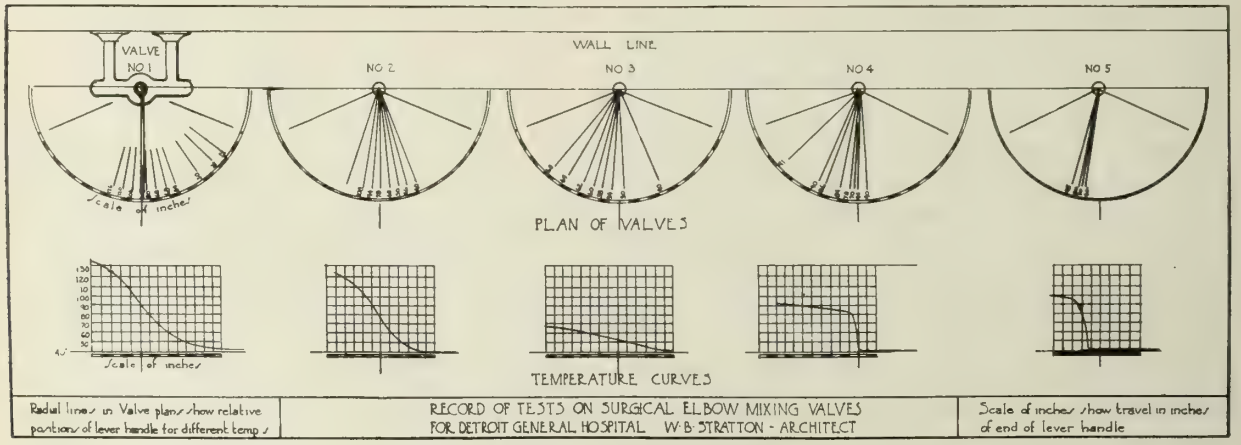

WALL LINE
VALVE NO 1
NO 2
NO 3
NO 4
NO 5
Scale of inches
PLAN OF VALVES
Degrees
Scale of inches
TEMPERATURE CURVES
Radial lines in Valve plans show relative positions of lever handle for different temps
RECORD OF TESTS ON SURGICAL ELBOW MIXING VALVES FOR DETROIT GENERAL HOSPITAL W.B. STRATTON - ARCHITECT
Scale of inches show travel in inches of end of lever handle

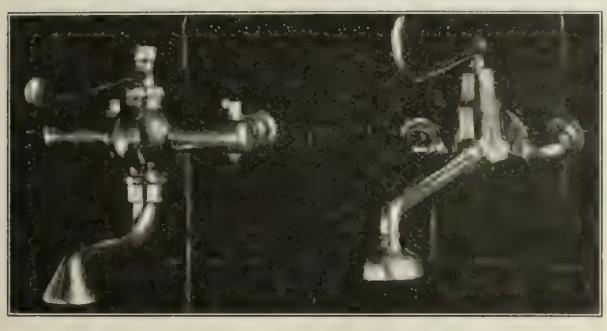
Fig. 1. Diagram of results of operation.

The valve shown in Fig. 3, being of very simple construction, with few and sturdy parts, all easily reached and giving the above desirable results as to mixing action, was chosen and the design (Fig. 3) made to fit about it. The design has all the simplicity of the foreign patterns, and the shape of the valve action allows even greater refinement.

The foreign fixtures are of white metal, without plating. The valve in Fig. 1 has just enough brass in its composition to give it a slight golden tinge

that is very beautiful. Both valves have been in my office for more than a year, and, while frequently handled and never polished, still show a beautiful polish, with no sign of tarnishing.

The usual means of getting rid of the water after using is through a bowl with an open outlet. That single bowls are unnecessary is shown in Figs. 7 and 8. These installations have trough-like fixtures, which serve simply to prevent splashing and to carry off the water. If there is a demand for this type of receptacle, I have no doubt the porcelain trade will produce a fixture in keeping with the balance of the work about the hospital.



No. 1. No. 2.

Fig. 2. Surgeon's mixing valve—No. 1, Austrian type; No. 2, German type.

Besides the simple matter of graded mixing of water used by the surgeon before operations, there are various functions which require not only this result, but the added therapeutic quality of a range of exactly established and maintained temperatures. I would suggest that for continuous baths, infant baths, and showers a standard requirement should insist on a fixture that should not only mix properly, but demand the following results needed for carrying out definite prescribed treatments.

Fig. 3. Surgeon's mixing valve designed for the Detroit General Hospital by Wm. B. Stratton, architect.

1. It should be quickly and easily set at a given

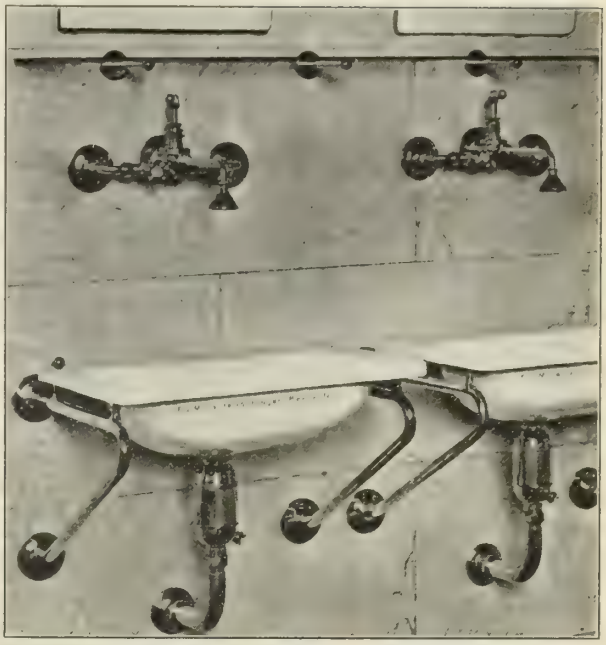


Fig. 4. Complete installation of surgeon's wash-up fittings in German hospital.

Fig. 5. Valve No. 1 temporarily installed in surgeon's laboratory.

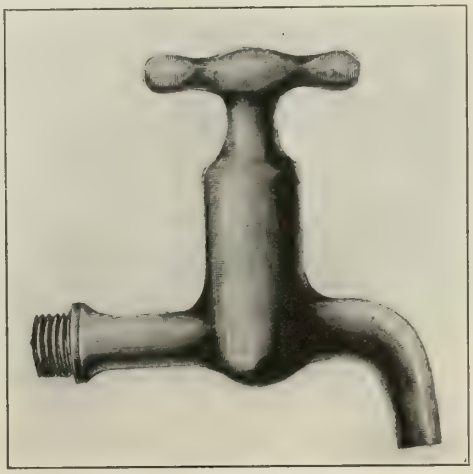


Fig. 6. Common hospital compression bib of German manufacture, showing complete elimination of all angles.

Fig. 7. Surgeon's wash-up in operating rooms of Rudolfinerhaus, a private hospital in Vienna.

temperature, and should maintain that temperature, regardless of amount of water used or variation of pressure on supplies.

2. It should be so arranged that it can be locked so that the range of temperatures cannot exceed a determined maximum. This maximum should be decided on and set by the head of the department, and should preclude the danger of scalding from careless use or from a sudden change of temperature or pressure in the supplies.

Fig. 8. Surgeon's wash-up in General Hospital, Munich, Germany.

There is a self-evident counter requirement to the first clause to the effect that a permanent supply of hot water reach the fixture at or above the required temperature.

A statement of the actual needs and desired results in the matter of sterilization would, no doubt, result in more practical planning and in the cutting out of much of the useless bright work, which now requires so much time and labor in the matter of cleaning. The room used for water sterilization, preparation of normal salt solution, etc., at the St. Georg Hospital, Hamburg, has absolutely no nickeled piping or bright work about fixtures.

While these matters are of minor importance to the medical man, the result of having good, effective, simple apparatus has enough effect on the general operation of the hospital to warrant his careful consideration. I think it will be generally agreed that a survey of the good and indifferent apparatus now used in the hospitals throughout the country would indicate that definite action in the way of a practical consensus along these lines is demanded.

CHANGE OF AIR.

Erroneous Impressions Being Eradicated by Scientific Work in Air Analysis.

The fetish of "change of air" seems in a fair way to be dissipated by some practical work now being done. For some years we have been learning that there are no positive or specific curative properties in the atmosphere, and we had pretty well come to the conclusion that relative humidity was about all we could expect.

Now come Prof. George C. Whipple, of the chair of sanitary engineering in Harvard, and Dr. Melville C. Whipple, instructor in sanitary chemistry of the same school, with some interesting figures in regard to impurities in the shape of suspended dust and dirt. The Whipples counted 220,000 dust particles in a cubic foot of air at the street level in New York. In the fifty-seventh story of the Woolworth building, on the same quiet day, there were only 27,000 particles, and a few miles out at sea on the Long Island coast only 18,000 dust particles. It would now be intensely interesting to know the amount of dust in the warm, dry air of, for instance, the great American desert of Arizona or New Mexico, and the amount in the more humid Pacific airs of southwestern California.

Hampstead's recently opened Health Institute is the first attempt in England to combine voluntary and municipal health work in one center. The basement of the building is devoted to a school of domestic economy for girls and mothers. On the ground floor are the borough tuberculosis dispensary and a bacteriological laboratory, and on the first floor is the children's clinic of the Council of Social Welfare. There is also a room for minor operations performed by the medical staff of the Killburn Provident Medical Institute and the Hampstead Provident Dispensary, and an arrangement exists between the council and the parents by which the children of the two provident dispensaries are under medical inspection by their own doctor up to school age, when the London County Council school doctor becomes responsible for them. There is also a social room in which first-aid classes, lectures, and meetings will be held.

ORGANIZATION OF THE HOUSEKEEPING DEPARTMENT.[1]

Almost Military Methods Necessary in Assignment of Tasks and in Placing Responsibility—Careful Supervision Inperative—Details of the Work—Recipes.

By HELEN CRAWFORD, R. N., Matron Johns Hopkins Hospital.

PAPER V.

THE matron's department of the Johns Hopkins Hospital includes the management of the laundry, linen and sewing rooms, and home for women servants. The matron is responsible for the general cleaning of the hospital, the purchase (subject to the approval of the superintendent) of all dry goods, china, glass, household utensils, soap, and such furniture as is necessary in her department. She has four assistants, who are in charge, respectively, of the office and store room, linen room, laundry, and the home for domestics. As the matron is responsible for the relief of the maids on duty in the wards, it has been found convenient for her to also engage them, especially as they are under her direct control when in the domestics' home. When on duty in the wards, they are responsible to the head nurse (and through her to the superintendent of nurses), and work under her direction.

Any special cleaning is done by the house-cleaning force, which is in charge of a janitress, and goes to every part of the hospital. There is a second force of cleaners for the dispensary, operating rooms, and laboratories, which is also under a janitress. The janitresses are responsible to the matron and her assistants. Whenever possible, this system is employed, as there is less loitering and more efficient work done when under observation and direction. When this is impossible, either the matron or an assistant inspects the work of the individual servant frequently. *All employees of the matron report to her assistant when going on and off duty.* Each ward maid also reports to the head nurse of her ward. The force of servants is divided as follows:

House cleaners, janitress and 10 general cleaners; operating rooms, dispensary, lecture rooms, laboratories, janitress and 16 cleaners; administration building, 2 janitors, 1 cleaner, 4 chambermaids; domestics' building, 1 cleaner; sewing and linen rooms, 7; ward maids, 25; Henry Phipps psychiatric clinic, 22; children's clinic, 4; laundry, 55.

It has been found most satisfactory to close each ward in turn during the summer months, when it can be cleaned thoroughly, and any painting and repairs done. Where practicable, the walls are washed instead of painted, as it is cheaper. Walls finished with good enamel or oil paint can be washed very satisfactorily. The method employed here is to apply cleaning substance and water with a sea sponge or cloth, rinsing with clear water until clean, followed by light and even rubbing with a dry cloth until all moisture is absorbed. The pressure applied must be uniform, as otherwise the wall will be streaked. For slightly soiled walls, green soap dissolved in water is sufficiently strong. For greasy walls, or those very soiled from steam, a paste of Wyandotte detergent powder and green oil soap has been found to give excellent results. The grit powder does not seem to scratch the enamel in this form or affect the color if carefully applied.

While a ward is being cleaned, all articles are inventoried and gone over carefully for exchange or repair, and any deficiency from the standard is made up. The mattresses and pillows are sorted. Those needing new hair or feathers are sent away for repairs, while the remainder are cleaned with a vacuum cleaner and scrubbed. The soiled tickings are returned with the made-over mattresses, are washed, and utilized as furniture covers and scrubbing cloths. The number sent away is not great, as the nurses are taught to handle mattresses and blankets with respect. The blankets are dry cleaned until they become discolored or stained, when they are washed. All soiled blankets are sent to the linen room, and are assorted for washing or dry cleaning. For outside and porch use a heavy blanket of the army type is used. For bed blankets a 75 percent wool, 60 by 90 inches, borderless white blanket, of very good quality, has been found most durable. The bath blankets are of cotton. They wash and look better than old woolen ones, and can be renewed at slight cost. The discarded bed blankets are used for treatments, or wherever rough usage is unavoidable.

Heretofore the linen and patients' clothes of each ward have been counted, mended, marked and made up to their proper standard while the ward was being cleaned, but a central linen room is to be established shortly, which will necessitate changes in this procedure.

Besides the yearly inventory, there is a system

[1]This is the fifth of a series of eight papers on details of management of Johns Hopkins Hospital. Last month, "The Nursing Department;" next month, "Purchase, Preparation, and Service of Food."

of weekly exchange for the wards and other departments. The nurses are instructed to put aside (in a place assigned for the purpose) all torn or worn linen, bed rubbers, slippers, household utensils, and a piece of each article broken during the week. On a fixed day the superintendent of nurses, or her assistant, inspects these articles, signs the order for their exchange and for the new supplies for the week. These order slips (of which a duplicate is retained by the department ordering) are in turn signed by the superintendent and sent to the matron's office. The linen is sent to the linen room for exchange, and the broken or worn articles to the store room. The orders for household articles are filled and sent to the proper departments next day by a store room maid, and the person receiving the articles signs the order slips to that effect. The maid returns the slips to the matron's office, where they are filed, and a condensed monthly record kept of the supplies furnished to the various departments. The linen is returned several days later, and the standard is maintained by replacing any discarded piece with a new one at once. This system has proven an effective check on carelessness, and enables those in charge of departments to keep their standards at their maximum. Anything worn or broken (unless from gross carelessness) can be easily replaced, but it is extremely difficult to get an order signed for new articles without an adequate explanation.

The matron holds the janitresses personally responsible for the amount of cleaning material used by their forces, and with the few servants, who are more or less independent, the same system of exchange holds good, each being required to bring the scrap of soap, old scrubbing brush, etc., which is held unfit for use, and a record kept of the amount required by each.

It seemed impossible to supply the departments with certain kinds of linen in sufficient quantity, so it was decided to keep the small pieces in the linen room. The same standard of pieces managed in this way provides enough for the places which previously were always crying for more. Whenever possible, a soiled piece must be brought to exchange for a clean one, but sometimes it is necessary to give without receiving. The only way to prevent undue loss is to count the linen constantly, holding the person receiving it responsible for its loss, and to have distinctive patterns or styles for special purposes.

All sewing of the hospital is done in the matron's sewing room, with the exception of the Henry Phipps psychiatric clinic and the children's clinic, which have their own. The nurses' uniforms, caps, and aprons are made by outside labor. Anything which can be purchased to better advantage ready made is obtained that way.

About a year ago the hospital built a very comfortable home for the maids. It has forty-two bed rooms, each room will hold two single beds, and every room has plenty of light and air. There are lavatories and baths on each floor, allowing one bath to every six rooms and a double number of washstands. There is a large sitting room on the first floor, and a small laundry in the basement for personal use. The matron's assistants live in this building, and have a comfortable sitting room of their own. The assistant matron of the home occupies the room directly opposite the sitting room for the maids and beside the front door. No one can enter or leave without her knowledge. Since providing the maids with such comfortable and hygienic quarters, there has been a decrease in the minor ailments, probably largely due to the insistence of the matron that perfect cleanliness be observed.

In purchasing materials, a standard make is bought, unless some decided advantage in price or quality can be obtained. Some of the grades which have proven satisfactory are:

Sheets, draw-sheets, and pillow cases, Utica C. or Pequot muslin; spreads, Allendale dimity; muslins, Dwight Anchor, Lonsdale cambric, Wamsutta double warp, Pepperell twill, Pequot; gingham, Otis, Bates, imported chambray; linens, Irish (of good grade when not subject to loss, otherwise strong and durable, but not fine finish); silver-plated ware, heavy triple-plated sectional; china, best domestic vitrified ware; enamel ware, Austrian and best domestic; rubber sheeting, best single-coated heavy sheeting, made on linen; laundry soaps, neutral soap chips and soap made in the laundry from fat collected in hospital butcher's shop and kitchen.

The formula for making soap is as follows:

Clean white tallow or cooked grease	35 pounds
Babbitt's concentrated lye	12 pounds
Water	40 gallons

This amount will make 160 gallons of soft soap.

No detailed mention has been made of the laundry, because the subject was fully covered in a paper by Dr. Winford Smith, published in the "Transactions of the American Hospital Association" for 1912.

The Dayton State Hospital Farm is to be made one of the two central plants for furnishing all Ohio institutions with farm produce. The Boys' Industrial School at Lancaster will be the second plant. Eventually the state will not have to purchase any farm produce. The Dayton State Hospital has 729 acres of land. An incubator with a capacity of 6,000 eggs is to be installed, and pure blood Holstein cattle and Berkshire hogs are to be purchased.

STUDENT GOVERNMENT IN THE INDUSTRIAL SCHOOL.[1]

Pupils Unable to Govern Themselves Not the Best Guides for Others—Parental Discipline and Home Atmosphere Are Necessary.

By MRS. A. M. CLAY,
SUPERINTENDENT STATE INDUSTRIAL SCHOOL FOR GIRLS, CHILLICOTHE, MO.

PAPER II.

TO the art of governing, directing, regulating, supervising, and controlling, delinquents as a whole, are not "to the manor born." They have neither controlled, nor been controlled; directed, nor been directed; exercised judgment, nor been exercised upon. Whence, then, the theory of student government as it is usually understood? Where lies the consistency in the recent, universally accepted theory that moral delinquency and mental deficiency are synonymous, and yet that the delinquent within the institution is able to govern her school comrades when on the outside she could not govern even herself? And then, simultaneously with all this, do we hear the declaration that institutions institutionalize children, that they do not develop individuality, and that they are stultifying and oppressive.

This "expression of individuality" talk brings to mind the story of a fellow out West who was both delinquent and defective, and finally landed in jail. The sheriff, having come from the "effete East," had certain ideas about the "expression of individuality," so he gave him a free reign and plenty of opportunity for said expression. One day a friend of the sheriff came visiting and thought he would help carry out the sheriff's ideas, and he took the prisoner out for a little sprintfest around the unfenced yard and adjacent grounds. All at once he realized that the prisoner was running away, and he proceeded to give chase. He finally reached him, much to his sorrow, for the fellow fought like a tiger, biting off one ear and battering him up generally, his life being saved only by the timely arrival of the sheriff. But, what is an ear, more or less, compared to the "expression of individuality?"

Government is not so much a state as a process of growth, and the highest form of student government is that form wherein every student has grown capable of thoroughly governing herself. The soil of the soul must have become fruitful ere it can have produced the right type of organization or aid in operating any true government. Every system should coincide with the principles of nature—namely, letting the penalties of disobedience be those inflicted by the student herself through said disobedience.

Personally we have had experience with three distinct methods of institution government, or discipline: first, the one we once found where every officer, teacher, and house mother governed, disciplined, and managed those in her department largely as she desired, without especial regard to others; second, the organization of families into separate clubs or communities, having powers of local self-government—the student government plan; third, the system which coincides with nature's laws—the penalties of disobedience, following such disobediences as the student may of her own volition commit.

Of the first plan nothing can be said in favor and everything against it. Of the second, much can be said in favor, but more against. Of the third, all can be said in favor, and little, if aught, against.

To recapitulate: First, nothing can succeed which is of the "seven-heads-and-ten-horns" variety; anything with more than one head is a monstrosity!

Second, although a house mother or manager is none the less the house mother or family manager because of student president, vice-president, and council (and although her advice and suggestions may be always most welcome), nevertheless a delinquent student body is not slow to suspect and to charge favoritism and partiality, and thus is destroyed the family unity of spirit and purpose which are so vitally essential. The value of self-government cannot be overestimated—it is the keystone to the arch—but experience has long since shown that the delinquents are usually those who were conceived in the sin and born in the iniquity of blood-love, bad temper, and weak will, and that self-government is an unknown quantity. It takes body power, brain power, and will power to rule the individual and the world. A human mind ushered into being is dependent on parent and society for wisdom and direction. But suppose a parent has not strength to give or wisdom to impart? Then, indeed, must society undertake the parental task, and it does.

We can have good government only through leaders of three-fold strength, who are, in addition, enthusiastic, hopeful, courageous, consistent, and cheery. Is this the description of the deficient, the defective, or the delinquent? But the

[1]This is the second of a series of papers on the conduct of the industrial and reformatory school. Last month, "Details of Administration;" next month, "Repression Versus Expression."

Fig. 1. State Industrial Home for Girls—An annex building.

deficient can be taught, the defective trained, and the delinquent strengthened, and an institution is the place for all this and these, as it is a positive evil for the child who is wholesome and normal to have to associate with either the abnormal or subnormal in the daily routine of the public schools, since it is a well-known fact that children follow the line of least resistance, and the vital question of morals is one that is involved in no small degree.

We have of late had an overplus of sickly sentimentality and senile sympathy, which, if believed, would lead the public to think that no child is by nature delinquent, deficient, or defective, but that, if such conditions exist, they are to be charged to the immediate neglect of someone who invariably has had nothing whatever to do with either their birth or progenitors. This, of course, may always be expected of the sentimentalist and the senile, who, out of the abundance of their ignorance, speak many strange and wonderful untruths.

Who that has succeeded institutionally but has found that success lay along the way of emphasizing the family unit, the family spirit, and the family pride? What well-regulated family but looks to a parent head? And what wise pair of parents ever turned over the family discipline to any particular child, or even to a carefully selected group of children, providing, indeed, their progeny should have been sufficient to refute the race suicide charge?

Third, after a trial, then, of various methods and measures—and who that has engaged long and actively in the management of juvenile institutions but has tried out many methods and measures—we emphatically hold that the system which more nearly approximates the home ideal of parent-head is the system to which we must look. The Bible injunction is, "Children, obey your parents"—not each other. And again, "he that ruleth his own spirit is better than he that taketh a city."

A proper parent seeks to cultivate health of mind, body, and soul; a proper parent loves the child, and means it to become a good citizen; a proper parent recognizes that "an educated person finds means to obviate a disagreeable position without offending against the law, while the ignorant and the weak seek relief in committing crime;" a proper parent recognizes that only those of honor and ability possess the governing motive to the full; therefore the proper parent seeks to strengthen the weak, protect the deficient, train the defective, and educate the delinquent which become intrusted to her care on entering into the institution, and the parental idea should be ever first in institution life, as in family life.

Van Dyke says that the rudiments of civic interest may be seen in the very animals, fowls, and insects, and we well know that every herd of wild cattle has one head, that no flock of wildest geese but harken only to one leader, and that no bee hive or ant hill but reflects the results of organization.

"THE PRINCIPLES OF NATURE."

If nature's laws are violated, the penalties are sure, and the violator only starts these into activity. A questioner, sent to the heads of practically all the girls' industrial schools in our country, brought forth the following: The majority neither used nor approved the so-called student government in schools for the delinquent. A few,

Fig. 2. State Industrial Home for Girls—An annex building.

out of several, had made use of a portion of the plan in one cottage. Most institutions had some system of grading. One or two used the system of first, second, and third grades; the first and second carrying with them certain standards and privileges; the third, none, being a demotion and disgrace. Some had a system of merits for each day, ten being the number allotted for good behavior, and when 5,000 were attained, the girl was either permitted to enter a "model home" on the campus for special training or was granted a parole.

One institution employed what they termed a monetary plan, using a system of fines instead of markings for demerits. The smaller the family, the more easily can a new theory or method be tried out; the smaller the family, the more individual is the attention bestowed, and therefore in the small family does one achieve the best results. In speaking of a grade system, be it thoroughly understood that in no sense does the term refer to grading the children morally.

Every institution seeks to separate, as far as facilities permit, the most degraded and incorrigible from those who are of higher grade, as every person of wide institutional or social service experience recognizes this necessity. In each system to be found in the several institutions many good features are observed, but all of these are in process of evolution. Gleaning here a little and there a little, adding, where conditions and opportunities permit, to this gleaning the fruitage of experience and training, that, all combined, may in time bring about a system as nearly approximating perfection as can be obtained, is the hope of every progressive institution head.

In our institution we have evolved not only a system of markings and demerits, but in addition thereto a method of markings which mean *merits*, and therefore the student can gain a certain number of credits for *worthy* action, as well as lose a number of credits for *un*worthy action. This, to us, has proven thus far the most satisfactory system of all. Every girl begins the month with 100 marks to her credit. If, at the end of the month she is found to possess an average of 85 or above, her name is entered on the honor roll, which means that she has many privileges, such as the family moving picture show, the extra letter writing privileges, attending church and lectures down town, visiting the photograph gallery to be photographed, going out shopping, and many other privileges pertaining to their individual affairs which, from day to day, will seem to them desirable. The results thus far this year have been that one family maintained a general standing of 57 percent on the honor roll, another of 60 percent, another of 65 percent, and, best of all, one of 96 percent. Aside from this family system of rewards, we have in our school, which is graded exactly as the public schools of the state—instruction being given up to and including the second year high school work—the regulation report cards, like those of the public schools, which are

Fig. 3. State Industrial Home for Girls—Group picture of girls and attendants.

brought home at the end of every month by each student for the house mother to inspect and sign.

This family merit system seems to us the one with the greatest possibilities. The salvation of the delinquent, the protection of the deficient, and the training of the defective are here accomplished more properly and effectively than in any other atmosphere.

Industrial school children invariably come from broken homes—have rarely known a family life or family pride. These elements are always essential to even the smallest degree of successful training, and, with the exception of a comparative few who have degenerated completely, the introduction of these elements into the life of the delinquent invariably produces satisfactory results. These children of the Deplorable Way are very susceptible to influence and training, and therefore it is doubly necessary that those who have this charge to keep should be the embodiment of the steel-hand of goodness within the velvet-glove of personality.

"For gain is pain, and pain is gain,
Let us aspire
To rise above the wrecks of time
To something higher."

MECHANICAL VENTILATION OF HOSPITALS.

Duty of the Medical Profession to Determine Its Value in Order That Architects and Engineers May Proceed Along Scientific Lines.

By T. J. VAN DER BENT, of McKim, Mead & White, New York.

MORE than three years ago I made an attempt to get a positive answer as to the importance of installations for mechanical ventilation in hospitals. Neither from the medical nor from the engineering professions did I obtain any encouragement—not even a satisfactory answer. As will be seen from the letters printed below, Dr. Dietrich referred me to the engineers. The engineers, through Prof. Rietschel, asked me to be less inquisitive, and not to ask questions which were embarrassing and which might harm the business of the engineering contractors on heating and ventilating in Germany. As will be seen from these letters, I agreed to wait and not force the matter then and there. The five letter below are self-explanatory. Prof. Rietschel's answer in German has been translated into English:

"New York, October 21, 1910.

"Prof. Dr. Dietrich, Internationale Hygiene Ausstellung, Dresden, 1911, A 7, Zwickauer Strasse 35, Dresden, Germany.

"Dear Sir: The proper planning and equipment of hospitals cannot successfully be accomplished by architects unless they receive from the medical faculty all positive data as to what must be considered harmful and bad, or beneficial and good, for the patients. As a member of your committee of the section 'Care of the Sick,' and also as an architect, I consider it a very important matter that the status of mechanical or so-called 'artificial ventilation' be as early as possible defined by the medical profession. It seems to me that the question should be definitely settled beyond further dispute or argument, 'Is artificial or mechanical ventilation harmful or beneficial?' 'Is it a step forward or backward?' The widely different opinions of the medici, based, in nearly all instances, upon assumptions and not upon established facts, make it impossible for architects to decide as to the necessities and requirements of hospital buildings. It would be greatly appreciated by me if you would kindly give me answers to the following questions:

"1. Is the subject of mechanical ventilation on the program of the Dresden Exhibition of 1911?

"2. If not, will it be possible to have it placed on the program, and, either through the reading of a paper on the above question or through a pamphlet, have this matter discussed by the physicians who will be present in Dresden at one time or another during the Exhibition?

"3. If the first manner of introduction of this important subject were possible, I would be entirely willing to read such a paper before a convention or assembly of doctors, and bring about such discussion as will eventually settle the question finally, provided a time for this could be arranged which would be convenient for me to make arrangements and be present in Dresden at such a time.

"4. If it is only possible to bring this matter before the medici in the form of a pamphlet (which, in my opinion, seems least desirable), kindly inform me if the committee in charge of that branch of the Exhibition would take charge of the printing and distribution of such a pamphlet.

"Hoping that the answering of these questions will not inconvenience you, and that the great importance of a final decision on this subject will appeal to you, I remain,

"Yours respectfully,
"T. J. Van der Bent."

"Dresden, November 15, 1910.

"T. J. Van der Bent, Esq., 160 Fifth Avenue, New York.

"Dear Sir: We beg to acknowledge receipt of your favor of October 31, addressed to Prof. Dr. Dietrich, and in reply inform you that, at the occasion of the International Hygiene Exhibition, a congress of the Association of Heating and Ventilating Engineers (Verein der Heizungs- und Lüftungs-Fachmänner), will take place on June 11-14, 1911. We think this will be a very good season to bring the question, 'Is the so-called artificial ventilation of hospitals harmful and bad, or beneficial and good, for the patients?' before the medici and architects. Perhaps the medici could be invited to take part in the meeting in order to declare what they think about the artificial ventilation of hospitals.

"We have remitted a copy of your esteemed letter of October 31 to Geheimer Regierungsrat Prof. Dr. Eng. Rietschel, president of the Association of Heating and Ventilating Engineers, Berlin-Charlottenburg, Giesebrechtstrasse 15.

"The subject of mechanical ventilation is on the program of our Exhibition, and will be represented in the group, 'Heating and Ventilating,' which is under the presidency of Geheimer Oberbaurat Uber, to whom we have likewise sent a copy of your letter.

"Concerning a pamphlet to be distributed among the medici, we think it would be advisable to do so during the meeting of the above-mentioned Association. We remain, Dear Sir,

"Yours very respectfully,

"INTERNATIONAL HYGIENE EXHIBITION, Dresden, 1911.

"Chief Secretary of the Scientific Department, D. Weber, Regierungsrat, Member of the Imperial Board of Health, Berlin."

"New York, December 10, 1910.

"Geheimer Regierungsrat, Prof. Dr. Eng. Rietschel, Giesebrechtstrasse, 15, Berlin-Charlottenburg, Germany.

"Dear Sir: As per information received from Regierungsrat, Mr. D. Weber, chief secretary of the Scientific Department, Hygiene Exhibition, Dresden, 1911, a copy of my letter to Prof. Dr. Dietrich, in reference to ventilation of wards in hospitals, was sent to you, and the matters contained therein practically referred to a decision or discussion at the Congress of the Association of Heating and Ventilating Engineers. In view of the fact that I consider the decision on the important question of the beneficial or harmful effect of forced ventilation strictly a question for the medical profession, I regret the above action, if final, very much. Being aware of the great interest you personally take in all questions pertaining to heating and ventilating of buildings, I take the liberty of respectfully calling upon you for the assistance of your association, and especially of yourself as an eminent judge in this instance, in order to obtain a decided opinion from the medical men of the world who will gather in Dresden during the Exhibition. In order not to be misunderstood and to fully explain my position in this matter, I beg you to allow the following rather lengthy explanation and statement:

"In all modern buildings where large numbers of persons occupy certain rooms for a considerable length of time, artificial or forced ventilation is considered a necessity. This has even branched out so far—this idea of supplying forcibly fresh air, exhausting foul air in the same manner—that even private dwellings have been provided in a great many cases with such plants. For every new building—office buildings, large stores, museums, churches, schools, large dwellings—the call for such an installation is very decided, with one exception—the one least to be expected—namely, hospitals. I have personally heard hundreds of doctors pronounce themselves strongly against the installation of a ventilating plant; have received positive statements in writing that they consider it harmful to the patients; have heard their arguments used against these plants even in school buildings. Aside from my personal convictions in the matter, I consider it a necessity for the architectural profession to have a positive decision as to the truth of these statements made by medical men. Personally, I consider a hospital building without a ventilating plant a backward step of at least fifty years. The reasoning of those who condemn supply of air to ward rooms through ducts or flues has been in most instances as follows: Certain number of patients have recovered from special diseases very quickly when subjected to the so-called open air—fresh air—treatment. Air through flues is not fresh air. It is called cooked air, overheated air, etc. Open windows only supply fresh air; thus, forced ventilation is to be abandoned as harmful.

"I am not able to say how far this method of reasoning has been followed in Europe, but the opposition to forced ventilation in the United States has made enormous and dangerous progress, and it is my humble opinion that the medical world should be forced to give positive proof of their contention by submitting statistical data of the bad influence of artificial ventilation on patients, or be governed by the scientific arguments of the engineering profession. To my knowledge, not one hospital can present such data. Not one physician has as yet dared to make the experiment side by side for a number of years with the same number of patients under otherwise exactly the same conditions—exposing one-half of the number exclusively to window ventilation, the other half to window ventilation helped and improved by forced air supply and exhaust through flues.

"I need not explain to you that in every individual argument the side of the medici would be the losing side. The danger lies therein that, without scientific proof, without any data, this system of ventilation is attacked by a great number of doctors, men of great influence and reputation in the United States, to the extent that such plants in hospitals have, in numerous cases, been discontinued, and that for new buildings they are being omitted.

"In addition to the general method of reasoning by those medici who condemn forced ventilation, I give the following:

"Air from ducts or flues is not as invigorating; the patients do not recover as quickly; it is not as pure. Open windows interfere with it, and we want open windows at all times. The air from flues, if heated, is not the air patients need. The temperature of rooms with forced air supply is usually too high, etc.

"This manner of reasoning is, of course, due mostly to lack of knowledge of the ventilating systems, but, in order to avoid unnecessary argument, I would like to submit the following questions:

"1. Does the air which passes through flues actually lose some of its curative properties, even if not heated?

"2. Does air filtering, which eliminates all particles of dust, decayed matter, horse manure, drawn up from the streets, and which, during high winds, blows into windows even over sixty feet above the ground, have a similar effect upon this curative property of the air?

"3. Is it possible in all climates to always have windows open?

"4. Can ventilation and sufficient fresh air supply be obtained at all times under all possible climatic and atmospheric conditions by using windows only?

"5. Does any data exist to prove any or all of the contentions of the doctors as to the harmfulness of air supplied through flues?

"6. Does any data exist of the harm done by open windows due to drafts and overexposure, and have statistics been carefully made as to the increase or decrease of cases of pneumonia, catarrh, bronchial trouble, etc.?

"7. Is any notice ever taken of the discomfort and suffering of patients in severe weather from open windows—the percentage of their number compared with the percentage of those benefiting by same?

"I respectfully submit these questions to you as most clearly explaining my point of view. For the welfare of

the sick, in the interest of science, I call upon you for your help in my endeavor to force a decided answer upon all.

"To my knowledge, the first two cannot be positively answered as yet. To each of the other questions I would give a decided 'No.' If any scientific experiments have been made in Europe on these lines, with positive results, I am unaware of same, and any information in regard to this would be thankfully received.

"Respectfully requesting your interest in the above matters, and with sincere apologies for this long explanation, I remain,

"Yours very truly,
"T. J. Van der Bent."

"Charlottenburg, December 28, 1910.

"Mr. T. J. Van der Bent, 160 Fifth Avenue, New York.

"Dear Sir: With the expression of my best thanks for your agreeable letter of the 10th instant, allow me, first of all, to express to you my full concord with your view that a clarification of the question, 'Is artificial ventilation in hospitals necessary, desirable, or even damaging?' is of great importance. I have, therefore, taken your letter addressed to Prof. Dietrich to the board of professors who have in hand the disposition of the lectures to be held in the Congress of Heating and Ventilating Specialists. There exists also among my colleagues the opinion that an urgent clarification of the question of hospital ventilation is necessary. Despite this, the result of the consultation was a unanimous conclusion not to deal with the theme in the congress. The reasons for this are as follows:

"The ventilating technic gets its problems from the hygienic experts—respectively, the doctors. Among them exist at the present time, as you very properly pointed out, the most contrary views as far as hospital ventilation is concerned. While one part of the doctors will not do without artificial ventilation, the other part will not have it under any conditions, maintaining that with window ventilation the best can be secured.

"The cause of this is, in my opinion, that there are no statistics regarding the influence of artificial and simple window ventilation upon the convalescence of patients. There are no such statistics on hand, and it would be with great difficulty that they could be secured.

"In the discussion of ventilation in hospitals at the Engineering Congress, the only opinion prevailing would be that of the doctors attending the meeting, and it might, with the widely different opinions of medical men, very easily lead to a negative, or perhaps even, from the heating man's point of view, damaging result if, for instance, the majority of the doctors and hygienists present were to express opinions against artificial ventilation. But quite apart from a negative result, it is safe to say that no clarification of the question can be had in an engineers' congress, because at present demonstrable arguments in this field are missing, and the opinions of the engineers have no convincible power with the doctors.

"I regret exceedingly not to be in a position to give you better news; however, I hope that you will not withhold your consent from our resolution, reached with my colleagues after thorough deliberation.

"Very truly yours,
"Dr. Eng. Rietschel."

"New York, January 19, 1914.

"Dr. Eng. Rietschel, Geheimer Reigerungsrat und Professor, Charlottenburg 4, Giesebrechtstrasse, 15, Berlin, Germany.

"Dear Sir: In thanking you very much for your kind letter of December 28, I wish to confess that I was very much disappointed in the result of my endeavor.

"I wish to point out to you that at the present time a great amount of money is spent on installations of forced ventilation in hospitals, which installations are afterward never put into use. On the other hand, hospitals are built without such plants, and, unless enormous sums of money are later spent on these hospitals, it would be impossible to install a ventilating plant. This means that, if ventilation is good for the patients, work is being done which prevents its installation for years to come. It seems to me that if this matter were taken up by the physicians in conference, any decision could be welcomed from our point of view. I believe that a defeat of this cause from the side of the doctors would lead eventually to a victory, and sooner than half-hearted support would.

"As an architect, I consider it very wasteful to install plants which are not being used, and to increase the cost of building from 10 to 15 percent with mechanical installations, which amounts are taken directly from the beneficiaries of hospitals.

"As you request me, I will not further try to bring this matter before the Dresden Congress.

"Yours very truly,
"T. J. Van der Bent."

More than three years have passed since then. The situation is now as hopeless as it was before. As to the actual value of a ventilating system, no data has been obtained. A number of doctors are opposed to it, but present no scientific reasons for their opposition. Others favor it, but without having positive scientific reasons.

Some doctors have lectured about ventilating systems, and mentioned in these lectures terms like "cooked air," "air at 270 O. C.," etc., showing thereby their total ignorance of the subject, and the futility of argument with this caliber of "scientific men." Heating air up to 270 O. C. is as yet impossible, no boilers being made to accomplish this.

Without wishing to repeat the arguments of the above letters, I wish to lay herewith before the medical profession of the United States the exact status of the question of hospital ventilation, and sincerely hope that for the benefit of hospital construction in the future a positive decision on scientific principles may be reached soon. Without further explanation or argument, it seems safe to state the following as facts:

1. The need of ventilation in hospitals is variable, and dependent on the climate, the location, and the general design.

2. Under certain weather conditions and during a certain number of days per year, air in hospital wards will be stagnant without mechanical ventilation, window openings not being sufficient to create draft. The number of days that this happens is dependent on the three factors named above.

3. Even if theoretically possible to obtain suf-

ficient ventilation through windows, these windows will not be opened during severe weather conditions, and, if opened at all, not sufficiently to obtain the required amount of fresh air.

4. The best installation can be made useless or unsatisfactory if run by an incapable engineer.

It is not my intention to advocate the installation of ventilating plants. In the first place, it is of great benefit to architects to have them omitted. Ventilating systems complicate working plans to such an extent that it is a serious financial loss to the architect. The issues raised on account of the ventilating system are not only undesirable, but interfere with the progress and the status of the work, and are never any benefit to the work of the architect. The money spent on those installations could be only too well used on other work from which the architect will receive more credit. Notwithstanding all this, I wish to call attention to the situation, and principally on account of what I stated in my letter to Prof. Rietschel of January 19, 1911. I wish to lay before the medical men of this country the fact that millions of dollars are spent on plants which are not used at all, millions on work that is not operated properly, and larger amounts on account of realizing too late the necessity of some ventilating scheme in parts of hospital buildings not realized when the construction began. I wish to point out further that as yet no scientific data has been obtained as to the actual value of a ventilating system; also, that it must be considered that in every other type of building ventilating systems are installed, used, and are giving general satisfaction. The number of such installations is constantly increasing. Only in hospital construction does doubt exist as to the benefit derived or harm done by such installations. It is, therefore, necessary to arrive at a scientific conclusion, to a consistent approval or condemnation based on facts, and not assumptions. It is in the power of the medical profession to reach this important decision by obtaining actual data during years of careful experimentation and keeping of records of thousands of cases. Once this data is obtained by the doctors, the American engineers will be able to properly supply the solution of the new problem. The engineering profession in this instance is not directly interested in contract work. They will be able to give an unbiased opinion, which, as stated in Prof. Rietschel's letter, was not the case in Germany. In Germany the contracting and engineering professions are combined and have the same interest. In order to prevent further waste of money, it seems that this subject should be taken up by the doctors without delay.

THE COBB BUILDING OF SEATTLE FOR PHYSICIANS AND SURGEONS.

Unique Office Building Intended to House Many Hospital Conveniences for Tenants and Their Patients—Constructed According to the Needs of Occupants.

By A. H. ALBERTSON, Architect, Seattle, Associate of Howells & Stokes, New York.

THE physicians' and surgeons' building of this city is known as the Cobb Building, and was designed, built, and equipped especially as a modern physicians' and surgeons' building. It is the highest type of fireproof building, eleven stories high, 120 feet square on the ground, and is frequently spoken of as the finest and best equipped building of its kind. The owners are the Metropolitan Building Company, the architects are Howells & Stokes, of New York and Seattle, and the contractors were the Stone & Webster Engineering Corporation. The conception, construction, and successful operation of this building are notable examples of the satisfactory results that follow well coordinated team work. The problems of the medical building in general and of the Cobb Building in particular were studied by the owners in conjunction with their architects and specialists for about two years. The speed and economy with which the building was constructed by the contractors after the plans were thoroughly matured is proof of the value of careful planning and ripe conclusions. The owners of the building spent half a year consulting with local physicians and dentists in order to determine their particular needs. It was found that a building that would satisfy the requirements of other cities was not at all likely to satisfy the particular demands of local physicians and dentists. The building is now 95 percent full, there being about 115 physicians and surgeons and 50 dentists provided with office space, in addition to others who cater to their needs. The building is supplied with both alternating and direct current, so that instruments requiring either current may be used. Illuminating gas and compressed air are piped to each suite. The building is cleaned by the vacuum system.

The building, including the basement, is exceptionally well lighted, the windows being larger than usual and their tops placed directly against the ceiling. Two streets and a 20-foot alley sur-

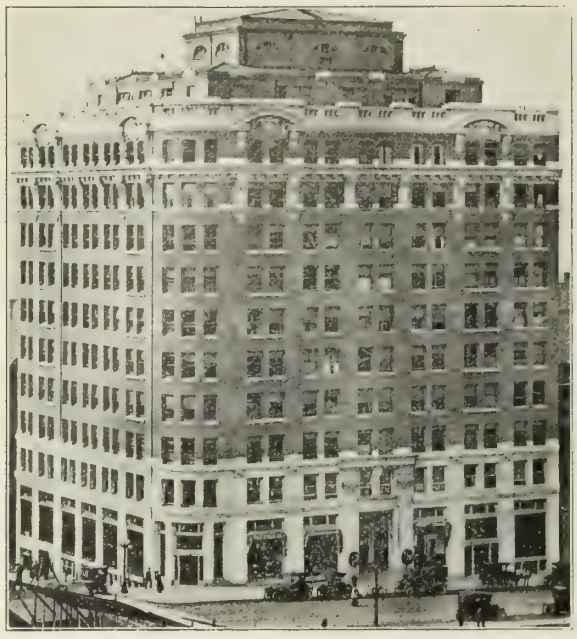


Fig. 1. Cobb Building—General view.

round the building on three sides, while part of the fourth side faces a permanent open thoroughfare belonging to the Federal post-office. The entire building, with the exception of part of the ground floor and part of the basement, is rented to physicians and dentists or some business or profession that supplies their needs. The basement contains a lunch room, a hairdressing and manicuring parlor, hydrotherapeutic baths, State Medical Library Association quarters, and a gymnasium for patients under doctors' directions, as well as for other patrons. On the ground floor is a prescription pharmacy and a medical supply house, where various sorts of instruments and supplies may be had for nurses, doctors, and hospitals.

In the stories above the ground floor there are, in addition to the 115 physicians and surgeons and 50 dentists, the following offices: physicians' clinical laboratory, offices of the Seattle Pulmonary Hospital, public operating room, x-ray laboratory and developing room, dental laboratory, nurses' registry, headquarters of the King County Medical Association, the county health offices, the State Board of Health, an emergency supply house, and two suites of independent offices, with a common reception room for each suite. There are altogether about two dozen professions or businesses that respond to the needs of physicians, surgeons, and dentists in the building. The building is provided with two general toilets on each floor, one for men and one for women, and two private toilets to be rented. The plumbing is also arranged so that in certain parts of the building bath tubs and toilet fixtures may be attached at any time, while the lavatories may be provided in any part of the building.

The operating room is for minor operations—only such as doctors usually perform in their own offices. This room is not intended as a substitute

Fig. 2. Cobb Building—Interior of an operating room.

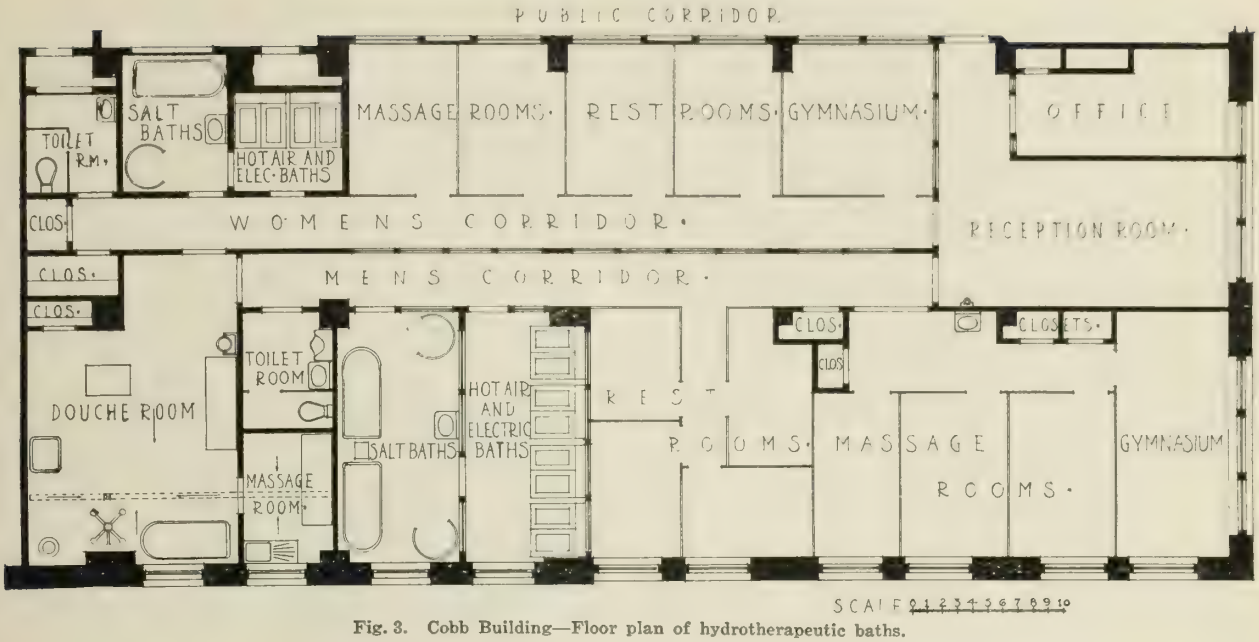


Fig. 3. Cobb Building—Floor plan of hydrotherapeutic baths.

for and does not come in competition with the hospital. In connection with this operating room are two graduate day nurses and two recovery beds. It is the endeavor to receive patients early in the day, so that they may leave for their homes in the afternoon. But in case patients do not react properly after the operation, they may remain over night in charge of a night nurse. The two day nurses are regularly employed, while the night nurse is called in only when it is necessary for patients to remain over night. This operating room averages one and a half cases per day, and is conducted in conjunction with Dr. H. Logan Geary's surgical dentistry office, being connected with his reception room, but the operating room is not used by him. It is accessible to all doctors in the building, and the expenses are borne by Dr. H. Logan Geary. A fixed charge is made by him for the use of the room by doctors. The woodwork is finished in hard, white enamel, and the floor is vitreous tile. The room is equipped with modern surgical appliances, including operating and instrument tables, with instrument and dressing sterilizer in adjoining room.

The hydrotherapeutic baths comprise a suite containing over twenty rooms, about half of which are for men and half for women, the reception room and office being common for both men and women. There are several massage and rest rooms for both men and women, and a physical culture room for each sex. Each sex is provided with ordinary baths, salt water baths, electric light and electric water baths. Neuheim baths, medicated shower and needle baths, hot-air baths, sitz baths, and douches. One room is supplied with a specially made tub for various kinds of tub baths, in addition to shower and needle baths of various kinds, douche, sitz bath, shampoo table, tilting basin, and a control table, from which all fixtures in this room are operated, including douche nozzles. There is also provided a cold-bath room, with the usual shampoo table, pack sink, and ice box. The usual toilets are also provided.

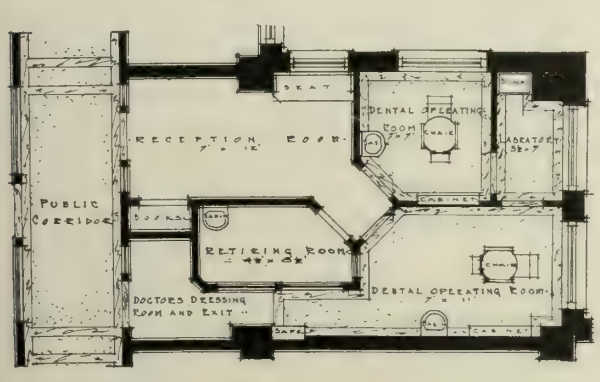


Fig. 4. Cobb Building—Floor plan of suite of Dr. George T. Williams.

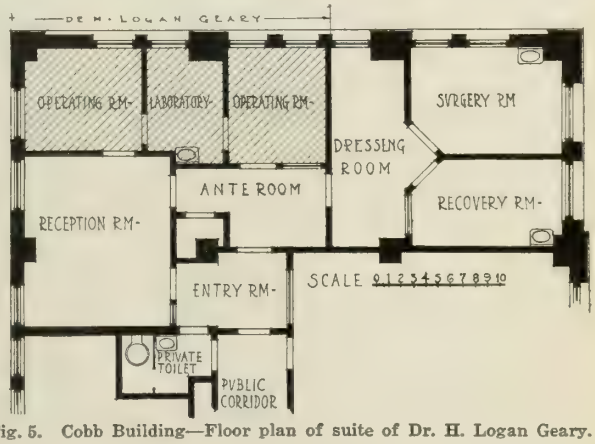


Fig. 5. Cobb Building—Floor plan of suite of Dr. H. Logan Geary.

At the conclusion of two years' investigation before the building was commenced it was determined that typical suites built during the construction of the building and before being rented would not satisfy the local requirements. Accordingly the policy was adopted of designing suites to satisfy the particular and specialized needs of each doctor and dentist. This meant that, while it cost more to construct the suites, it enabled the tenants to do with less space and gave them offices specially adapted to their particular requirements. The cost per square foot to the tenant is greater than it was in their old quarters, but their total rent paid is less, due to the compactness of the arrangement of their suites. Ventilation is provided to each office by a ventilator in connection with each window. This ventilator was specially designed for the Cobb Building, and is now on the market under the name of the Airo ventilator. The wall surfaces, except where tile is used, are of hard plaster painted with waterproof paint, giving a smooth, washable surface. In some cases the floors are of tile, terrazzo, or marble, provided with cove bases, but in general they are of hard maple, kept burnished with a hard, sanitary finish. The woodwork is of quartered oak, and is made as simple as possible and finished with hard, smooth surfaces of varnish. The specialized necessities and conveniences provided for the physicians and dentists, and the individual arrangement of the suites, were worked out in such accord with the tenants that they are not only contented, but rather pleased to be able to announce that their offices are in the Cobb Building, and, all told, the building shows a certain simplicity and richness, together with a distinctiveness and fitness to purpose, that is immediately felt on entering it.

ORGANIZATION AND MANAGEMENT OF THE HOUSEKEEPING DEPARTMENT.[1]

Systematic Assignment of Work Essential to Good Service—Responsibility Must Be Fixed—Comfort of Employees an Important Factor in Keeping Good People—Technic of Laundry Work.

By MISS ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICH.

PAPER V.

IN the small hospital it goes almost without saying that no general routine as to the conduct of the housekeeping department can be defined, as this matter depends so largely on the general architecture and convenience of arrangement of all working details. In general it may be said that the compact, closely built institution, with little corridor space, can be maintained and kept clean at a great saving of time and expense over that of the hospital built on the pavilion plan, with large, spacious corridors and entrances, although this latter type of building is much more attractive and comfortable and less noisy.

We have the advantage—or, if we regard it from a strictly economic point of view, the disadvantage—of having a hospital built on the pavilion plan, with large, open, central lobbies and roomy corridors. As a result, we are obliged to maintain a somewhat larger force of help than would otherwise be necessary.

We combine the position of dietitian with that of matron or housekeeper. As our nurses receive their course of dietetics and cookery at the Hackley Manual Training School, the dietitian is relieved of the necessity of teaching; consequently she has more time to give to housekeeping details.

The direction and supervision of all domestic details is in charge of the dietitian, who is responsible for the purchase and preparation of all food supplies, the arrangement of diets and daily menus, and also for order and cleanliness in all parts of the hospital building outside of the wards and operating rooms, which sections are in charge of the supervisors. She has also supervision over the linen room and laundry.

We aim, as far as possible, to keep every branch of the housekeeping in its own distinct department, and also to have a thoroughly systematic and orderly schedule of work which shall cover all departments, to which there must be strict adherence. This schedule has been carefully planned and arranged by the superintendent and dietitian in order to avoid overlapping work or conflicting orders. Every employee in the help department has a typewritten list of his or her work, with its required arrangement, which is posted where it can be referred to conveniently at all times.

We have a standing list of nineteen employees, who are arranged in the following departments:

In the kitchen three women are employed—a first cook, second cook, and kitchen maid. The details and work of this department will be dealt

[1] This is the fifth in a series of eight papers on the administration of a small hospital. Last month, "The Nursing Department;" next month, "Purchase, Preparation, and Service of Food."

with later in a paper on the purchase and preparation of food supplies.

The force employed for general work and cleaning in the hospital and nurses' home comprises three ward maids, two waitresses, one maid for nurses' home and annex, first orderly, assistant orderly, and janitor.

In the laundry we have four people—one head laundress and three helpers—one of whom is a man to do the heavy work.

In the engine room and power department we employ three men. One is chief engineer, who is also general utility man and is expected to take charge of all ordinary repairs around the building. He has a day and night assistant engineer, as it is one of our strictest hospital rules that at no time is the engine room to be left alone.

Our gardener is employed by the year. In winter he takes charge of the furnaces and basements in the nurses' home and annex, keeps up all work and repairs around the grounds, and attends to the shoveling of snow. This, with the care of hot beds and frames, keeps him fairly busy. During the summer we find it necessary to have two or three extra men for our grounds, which are very extensive and beautifully kept.

The ward maids are responsible for the care and cleanliness of the pantries, serving rooms, general corridors, and wards and private rooms, which they sweep at least twice daily. These maids also wash all dishes used in serving diets in wards, clean silver, glassware, and cooking utensils, and scrub ice boxes, steam tables, and dumb waiters daily. Serving rooms, pantries, and bath rooms are all scrubbed daily. The work is arranged so that each maid has two hours off duty during the afternoon, generally from 2:30 to 4:30, one-half day each week, and a half day on each third Sunday. As each maid takes her afternoon hours, it is arranged to have her work done by those remaining on duty.

One competent maid is employed to take charge of the nurses' home. She dusts and cleans parlors, halls, and all general living rooms daily, and keeps the home always neat and presentable. She also has entire charge of the bed rooms and cleans each room thoroughly once weekly, at which time the linen is changed.

As the sweeping and cleaning of the men's wards is done by the orderlies, the ward maid has time to assist with the work in the nurses' dining room and pantry. One regular waitress is employed for this work, and, with the assistance of this maid, takes entire charge of the dining room work, being responsible for the waiting, serving of food, and the care of the tables, linen, silver, etc. The linen in the nurses' dining room is changed three times a week, or oftener if needed, and every effort is made to have the meals hot and well served, and to make the nurses comfortable.

The rooms of the hospital officers are on the second floor of the administration building. This section is in charge of a maid, who takes care of the four suites of rooms, dining room, pantry, and the entire second floor corridor. This maid is subject to call for unusual or emergency service, and assists with the hospital mending.

The work of the janitor is to clean daily the first floor corridors, doctors' registry room, board room, reception room, offices, pharmacy, laboratories, ambulance room, and entrances to hospital. He also removes and cleans rugs from all private rooms each morning, cleans, scrubs, and waxes floors of all private rooms as vacated, and all corridors throughout the hospital proper as directed by dietitian. Every morning he helps distribute ice through the house, and is responsible for pulling up dumb waiters to private pavilions three times daily. He also cleans all windows, except those in the wards, which are taken care of by the orderlies.

We employ two orderlies, and have rather an unusual arrangement as to their hours. They are both on duty from 6:30 a. m. until 2 p. m., when the second orderly goes off duty until 6 p. m. From this hour he is on duty until 9:30 p. m., when he goes off regular duty, but is subject to call if needed through the night. The first orderly stays on duty until 6 p. m., when he is off duty for the day. Each orderly has a half day off duty each week, and they alternate being off duty on Sundays, the one remaining on duty being subject to night call if needed. By this arrangement the nurses have the advantage of the orderlies' assistance with their male patients until the wards are settled down for the night.

The work of the first orderly is that of waiting on male patients, bathing all who are able to have tub baths, and performing other duties for male patients as assigned by supervisor. He takes all cases for operation to and from the operating room, a nurse of course being always in attendance on the patient and in charge of the case.

The first orderly is responsible for the cleanliness of the male wards and bath rooms, attends to all fumigation, gives hydrotherapy treatments to male patients, and is responsible for the work and cleanliness of that department.

The second, or assistant, orderly helps with the care of the patients and in the cleaning of the wards and bath rooms. He scrubs all stairways twice weekly and sweeps them daily. He is responsible for cleaning all the operating rooms and

also all basement rooms and corridors. He delivers ice to all wards, and collects and empties all garbage and dressing pails twice daily.

In addition to their regular duties as enumerated, each of these hospital helpers is expected to perform any other service as directed by the superintendent or dietitian. Those familiar with hospital routine and work will readily understand that these unexpected and emergency calls comprise a large share of the work and increase greatly the amount of work required in every department.

We are greatly inconvenienced in the housekeeping department by the lack of closets for cleaning utensils. This fact necessitates keeping such supplies in bath rooms and other unsatisfactory places. This is a common fault in many hospitals, but none the less to be deplored. Every helper has his or her own set of cleaning utensils, which we find to be a most satisfactory plan and one that prevents much friction and loss of time.

In the morning the store room is opened for the purpose of giving out supplies needed throughout the house for the day. At this time any worn-out utensils are exchanged by the dietitian.

We endeavor to have the cleaning done thoroughly each day and prevent all possible accumulation of dust or dirt. Every two or three weeks each ward floor is thoroughly scrubbed with hot suds, waxed, and polished. The floors are kept in good condition between times by frequent polishing and the use of revivers on any spotted section or by the application of another coat of the floor dressing. The care of walls has been described in a previous paper.

As private rooms are vacated they are disinfected if the case has been one of an infectious character, and the room is thoroughly cleaned. The walls are wiped down, windows cleaned, curtains changed, furniture cleaned and polished, mattresses brushed, bed frame cleaned, and the floor scrubbed and waxed. Apart from the regular daily care, corridors are scrubbed and waxed as required, some portions of the house needing much more frequent attention than others.

It will be readily seen that, while all this cleaning is practically in charge of the dietitian, who has the supervision of the help and housekeeping arrangements, the responsibility for the cleanliness and the proper appearance of every part of the house must be shared by all the supervising staff. Any request for extra cleaning or emergency calls must be made, however, directly to the dietitian, who arranges for the work to be done, thus avoiding conflicting orders and much unnecessary confusion.

We have a large, well-equipped laundry, with every kind of machinery for good work, including washer, extractor, mangle driers, separators, electric irons, tables, and other modern and up-to-date equipment.

Each ward has its own clothes chute, and no soiled linen is ever permitted to accumulate in the ward, except that in the process of disinfection, which is kept apart and sent to the laundry after disinfection.

Our laundry is in charge of a competent woman laundress. She has two women to assist her and one man who does all the collecting and distributing of linen and other heavy work.

The soiled clothes are collected from the clothes chute in the basement twice daily, at 8 a. m. and 3 p. m. This clothing is placed in hampers on truck wheels and taken directly to the laundry through a covered outdoor runway kept for such purposes. In the laundry it is sorted and counted. Linen from the operating room goes down a special chute for that purpose only, and is thus kept separate.

Table linen, napkins, and tray covers are not sent down the clothes chute, but are kept in twine laundry bags and collected from all service rooms at 9 a. m. daily. This material is washed apart from other hospital linen. Baby flannels from the obstetrical pavilion are collected at this time and these also are washed alone, special care being taken to avoid shrinkage as much as possible.

The nurses place their personal laundry bags in the kitchen of the nurses' home before coming on duty every Monday morning. To each bag is attached a laundry list, the duplicate of which is kept by the nurse.

The laundry is arranged so as to equalize as far as possible the work of that department. On Monday, as the amount of hospital linen which collects over Sunday is heavier than on other days, the only extra washing done is that of the officers' linen and clothing; on Tuesday the nurses' clothing is washed; on Wednesday, blankets and curtains; Thursday, the linen from the nurses' home; Friday, linen from the annex; on Saturday no extra washing is done, as the laundry is cleaned every Saturday afternoon. Any repairs or work needed around the machinery is also attended to at this time.

We have a clothes room at one end of the laundry for sorting and arranging the clean clothes. Each nurse has a box compartment in this section, in which her clothing is placed as finished. She is also provided with a piece of stout gingham 1¼ yards square with her name on a large tape in the center. When the nurses' clothing is finished, all articles are folded carefully and pinned into this piece of gingham, with the list attached. These

bundles are taken from the laundry to the home and placed in the nurses' rooms. The outside cover is returned each week in the laundry bag. If the cover is not returned, the nurse must go after her laundry and take it to the home. Needless to say, the covers are seldom forgotten.

All hospital linen is returned at the close of each day to our central linen room and counted and sorted there. Every evening the head nurses send requisitions to the linen room calling for the amount of linen required for the next twenty-four hours, and stating the number of patients in the ward. These are checked by the dietitian, and the linen is sent to the ward early the following morning. Each ward has a very complete linen closet, but only sufficient stock is kept on hand for twenty-four hours, all surplus material being kept in the central linen room. The advantage of this central room can hardly be estimated, both from the standpoint of economy and convenience. Each department of the hospital has its own section of shelves, and the exact amount of linen in reserve can be seen at a glance. By this plan we also prevent torn and ragged linen from being sent to the wards, as such articles are at once laid aside to be repaired or discarded, as the case may be.

In each ward linen closet we have, however, a bag for torn or ragged linen, and, should any find its way to the wards, it is placed in this bag, which is sent every two weeks to the linen room for mending. Frequently, when the hospital is not heavy, two or three nurses are sent into the linen room to help with the mending. This gives them a little experience in connection with this department, and impresses them with the necessity for care in the use of linen. A few days spent in the linen room sorting and mending is regarded as an agreeable diversion, as the nurses are never sent there alone. When the hospital service is heavy, a seamstress is engaged for the work as needed.

The housing and care of hospital employees is a subject of infinite importance, especially in a small institution, such conditions influencing greatly the class of help that it is possible to secure.

We consider ourselves fortunate in having two sections in the hospital arranged with special reference to the accommodation of male and female help. Each section has comfortable rooms and sufficient bath room facilities. We also have two separate dining rooms, one for the men and one for the women employees. One thing we lack is a sitting room for the women. The men have a general sitting room, where they are allowed to smoke or play cards when off duty.

The question of securing satisfactory help is always a problem in institutions, but suitable and comfortable living accommodations are a factor of great importance in securing and keeping good help, and should be carefully considered by those who are planning new hospitals.

A SMALL HOSPITAL OF LOW COST.

St. Margaret's, of Spring Valley, Ill., Was Built Complete for Eighteen Cents Per Cubic Foot—An Effort to Combine Economy and Efficiency.

By VICTOR A. MATTESON, Architect, Chicago and LaSalle, Ill.

As in most other building projects, one of the first considerations in connection with a new hospital project is that of cost. In these days of ever-increasing cost in building operations it is usually found that the expense of constructing a hospital will be more than originally expected. It is never possible to say beforehand just what the cost will be, as there is much variation in different localities in the two great expense items that go to make up any building—namely, the cost of labor and the cost of materials. A third factor enters into the matter which is seldom taken into consideration, but which is of much importance—the efficiency of the labor. It sometimes happens that a building can be erected more cheaply where the labor is paid a high rate per hour on an eight-hour basis than it is where a lower scale is paid on a ten-hour basis. This, of course, is on the assumption that the more expensive labor is more skilled and works faster, which is sometimes, but not always, the case.

It is much more difficult to design a successful hospital economically than it is to make it successful when no expense is spared. To economize is to sacrifice, usually, but the important point is that the sacrifice must not be done at the expense of utility. There are many items which are desirable, but not altogether indispensable, and these should be the first to be omitted. The successful hospital of low cost must contain everything necessary to its practical and economic operation, and must sacrifice as little as possible where the comfort and welfare of the patients are concerned. The solution of any hospital problem must take into consideration the class of patients to be accommodated and also the character of the cases—whether surgical, medical, contagious, etc. It is necessary to consider whether the hos-

Fig. 1. St. Margaret's Hospital—Front view.

pital is to be located in a thickly populous community, where the cost of real estate is high, and where little ground is available other than that on which the building stands; or in the suburbs or country, where it can be placed in the more ideal location—one with large surrounding grounds. It is also necessary to consider whether the community which the hospital will serve is composed largely of the laboring classes, where wards may be utilized, or located where patients will demand and be willing to pay for individual rooms.

Any hospital should be so planned that additions may be built without interfering with the practical and economic operation of the whole, and without unnecessary expense for tearing down existing portions in order to construct additions. Additions, in other words, may be built with a degree of economy, while alterations are expensive.

A rough mode of comparing the costs of buildings is afforded by ascertaining the cost per cubic foot of building, and figuring from cellar floor to about a third of the height of roof—that is, in the case of a building with unfinished attic and approximate 45-degree roof. The figures should include heating, plumbing, electric wiring and fixtures, elevators, hardware, and everything complete, except furnishings, equipment, and architect's fees.

St. Margaret's Hospital, located in a 20-acre tract of land at Spring Valley, Ill., is in many respects ideal, considering the cost of the building, which was about 18 cents per cubic foot. The capacity of the building at present is 40 beds, although an extensive addition is now being planned, which will double this capacity. The building is not fireproof, although the walls and many of the partitions are of brick and the roof is slate. The exterior is faced with deep purple-

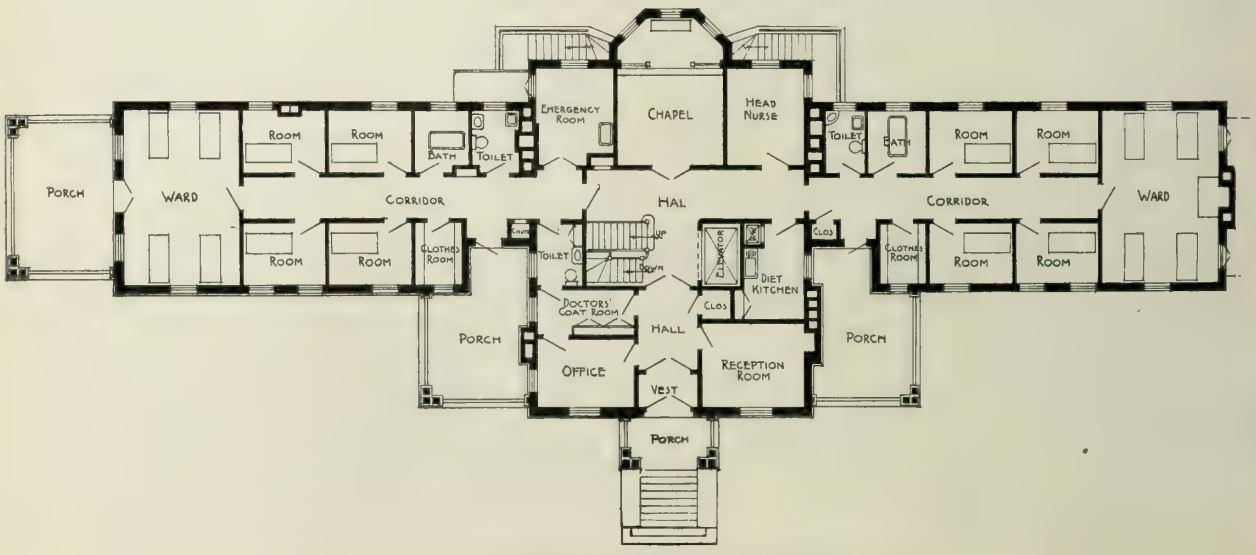


Fig. 2. St. Margaret's Hospital—First floor plan.

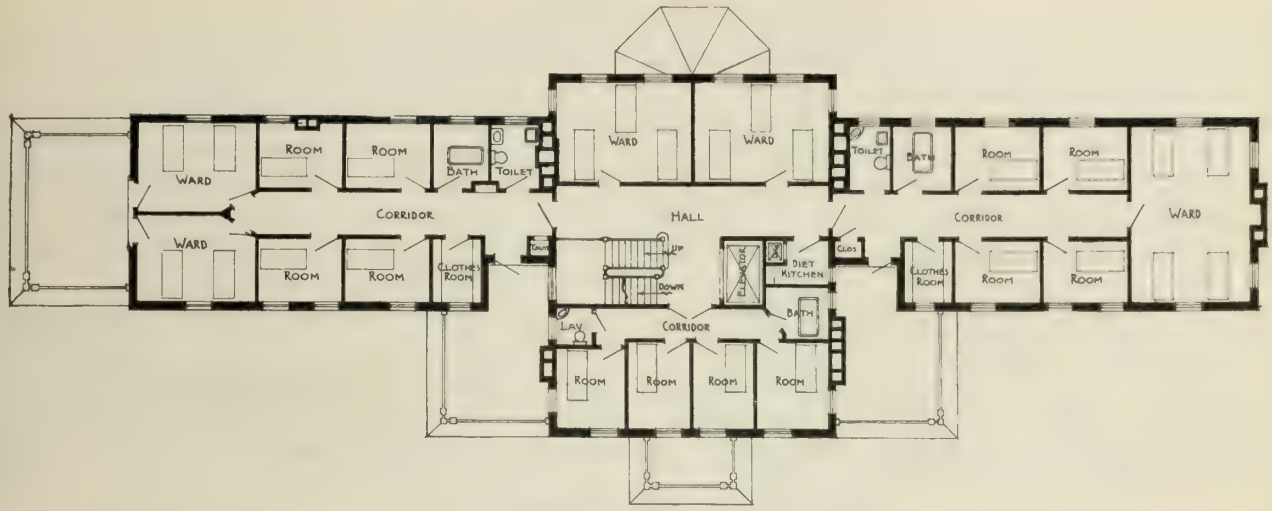


Fig. 3. St. Margaret's Hospital—Second floor plan.

red vitrified shale brick, and the trimmings are of concrete and stone. It may be stated in this connection that all hospitals should be fireproof.

On entering the building one finds himself in the administrative portion of the institution, which is entirely shut off from the rest of the building. On the right of the entrance hall is a reception room, and on the left is the office. Back of the office is a physicians and surgeons' coat room and a toilet. The charts are kept here. A closet for the soiled wraps of visitors is also located off from the entrance hall. Directly opposite the entrance are located the large swinging doors which separate the administrative department from the hospital proper. Beyond these doors everything is found to be white, airy, light, and sanitary. The elevator is located at the right, the stairs are to the left, and the entrance to a chapel is directly opposite the entrance. Transverse corridors, shut off by swinging doors from the stair hall, lead on either side to patients' rooms or wards. The head nurse's room is located on the first floor off the central stair hall, with a diet kitchen opposite. An emergency operating room is located on the first story, which is used also for dressings. The first story is used for male patients, while the second is used principally for women and children.

The plan of the second story wings is practically a duplicate of those of the first story. Ordinarily the two large center rooms of the second story are used singly for patients desiring large rooms, and the same is true of the small wards in the left wing. The isolated group of four rooms in front is used for maternity cases. A diet kitchen is connected by dumb-waiter with the diet kitchen of the first floor and the main serving pantry in basement.

The third story extends only over the central pavilion, and is devoted exclusively to the operating or surgical department. The operating room, together with its immediate auxiliary rooms—sterilizing, ether, and surgeons' wash-up room—is separated from the stair hall. On this floor is also located the x-ray room, dark room, and a dressings room. A small laboratory adjoins the operating room, but is separated from it by an air-tight plate glass partition, and visiting surgeons may view an operation from here without actually entering the operating room.

In the basement is located the main kitchen, nurses' dining room, serving pantry, laundry, heating apparatus, and storage cellars. The kitchen is so arranged that odors do not reach the main hall, an objectionable feature in many hospitals. The basement floor is but a few feet below ground, and the basement is light, dry, and airy.

While this hospital is so located that convalescent patients may be out of doors under the trees much of the time when weather permits, ample

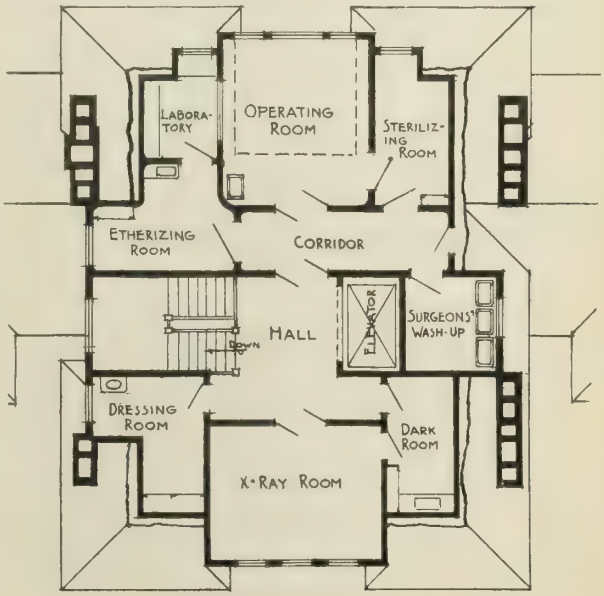


Fig. 4. St. Margaret's Hospital—Third floor plan.

provisions have been made by means of large porches opening off from each wing at each floor for patients to be wheeled out, or taken out in their beds, to the open air.

The question of wards, private rooms, or private rooms with attached bath, is one that must be settled in each individual case. In this instance it was decided that there would be little call for private rooms with bath. On the other hand, the patients, particularly the women, do not take kindly to the wards. Wards for children are, however, found universally practical, and in many cases the younger men find that time passes more rapidly in the wards in company with others. Clothes closets were not provided in the rooms, but large, airy locker rooms are provided in each wing on each floor for patients' clothing. While this arrangement, like many other features of this particular institution, works extremely well, it would not be found to work equally well in many cases, and would have to be studied to fit the needs of each particular case. This, however, is true of nearly every feature in hospital planning, and is what makes it impossible to lay down hard and fast rules which will fit all cases. Considering its cost, the conditions and requirements, St. Margaret's Hospital has proved very satisfactory and has been very successful.

HOSPITAL AID FOR THE HANDICAPPED.

During the "Spanning Period" Between Illness and Work, Patients Need Remunerative Employment—May Be Accomplished by Hospital Service and Craft Work.

By BYAM HOLLINGS, M. D.
ASSISTANT ADMINISTRATOR MASSACHUSETTS GENERAL HOSPITAL.

IT is becoming more and more evident that the obligation of a large charitable hospital does not cease with the departure of a patient from the wards or from the clinic. If, as some economists have stated, a workingman represents a certain money value to his community, then his complete and rapid convalescence is a business proposition, not only to himself and his family, but also to his village or town. There is a period, which may be called the spanning period between ill health and industrial usefulness, which should be more thoroughly supervised. Doubtless at the time the patient leaves the hospital he is advised about his future treatment, but disinclination and misunderstanding may render that advice useless. In one department at the Massachusetts General Hospital it was found that 20 percent of the new cases did not return. This means that the initial outlay of energy on the part of the physician was to a great extent wasted, as well as the medicine, x-rays, and other hospital material.

With the assistance of the social service department and its workers in the various clinics, it is possible to follow the patient whose convalescence seems to be retarded by some inexplicable cause, and circumstances may be discovered which require modification before the patient can be cured.

How much the hospital itself may do to aid the handicapped worker to bridge over this "spanning period" between illness and active work is at present being tried at the Massachusetts General Hospital. The man or woman who is chosen to work in any of the various departments is under treatment and worthy of financial assistance. The financial aid is not the entire benefit that is received. One needs to see the idle individual who comes merely for occasional treatments of a chronic disease, and then observe the same patient working at some remunerative occupation for a few hours a day, to appreciate the full value of the idea. The mental encouragement derived from the work itself and the fact that he is doing something remunerative keeps alive his sense of decency and has a therapeutic value as well.

With the various benefits for the handicapped in mind, Dr. Herbert J. Hall, of Marblehead, Mass., who for some time has made use of several of the industries as a source of interest to his own patients, cooperated with us in starting a cement shop at the Massachusetts General Hospital. The financial and social needs of the workers are investigated, and the hours of work are based on the opinion of the physicians in charge of the patients. The shop itself is arranged with benches, lights, stands, racks, and the numerous molds and utensils required for the manufacture of jars, flower pots, bird baths, pots for ornamental trees, garden benches, and stepping stones. A salaried woman is in charge, who is versed in the making of cement articles. Not the least of the success of such an undertaking depends on a market for the goods produced.

With this shop fairly well started, and nearly on a self-supporting basis, other positions were discovered at the hospital in which the handicapped could be employed to the advantage of the patient

and the institution. In one department it was possible to place a man to stretch and pack used gauze that had been washed. The cost of stretching a five-pound lot of gauze was obtained and the patient paid accordingly.

Another chance to place workers has been found in the sewing room, where eight women are employed. A sufficient amount of simple sewing is given the patient, so that the hospital has been enabled to reduce its working force in that department, and the patients are paid on the basis of the amount of satisfactory work done.

One worker is able to make nurses' caps, which were formerly purchased outside the hospital. Another makes stockings on a stocking-cap machine. These stockings are sold to several hospitals in and about Boston.

In fact, each large charitable hospital has opportunities that are possible openings for the handicapped workers. The regular hospital routine should neither be made more complex nor slowed down. As otherwise, while a few are helped, a little harm is distributed among many. With the supervision of the patients by the social service, and with the benefits which the handicapped and his community obtain, it seems for the present at least that the subject is worthy of a fair trial.

BERLIN WILL REDUCE THE HANDICAP.

Farm Center Will Readjust the Lives of Injured Workmen and Start Them Fresh.

The Northeastern Iron and Steel Cooperative Association, embracing all the metal working factories of Berlin, has bought a 210-acre farm near the city, and will equip it for taking care of the victims of factory accidents. A hospital for badly injured men is to be provided, and for less seriously injured workmen and convalescents special quarters will be built.

Particular benefit is expected from light gardening in cases of traumatic neurosis, a common sequel of injuries in this line of work. All patients will be cared for free of cost, and convalescents capable of working at gardening, fruit culture, or other light farm work will receive wages.

The association plans eventually to establish a farm colony where those victims of accidents who require a long period for convalescence can settle with their families. It is planned to build small houses, with a quarter to a half acre, according to the size of the house and the number of persons occupying it, and to charge for all this less rent than the family would have to pay in the city for its restricted quarters. Opportunity will be given to raise poultry, rabbits, and goats, and trained gardeners will be at the service of the tenants.

A portable clinic where tuberculous cases may be examined free of charge is advocated by Harold Slocum, secretary of the Minneapolis (Minn.) Tuberculosis Committee. The clinic would require a house small enough to be easily moved from one vacant lot to another in the poorer sections of the city, but which would accommodate a doctor and a nurse.

NEED OF MATERNITY HOSPITALS.

Small Wards at Moderate Prices Will Do Much to Help Patient and Physician.

In our great cities the parturient woman is likely to have adequate care and attention, provided either that she is well-to-do or that she is of the very poor, says the *Lancet Clinic* editorially. If she belong to the latter class she may appropriately enter the obstetrical ward of the municipal hospital. If she prefers, she may be delivered at her home, looked after by a competent nurse and attended by a good physician furnished by an up-to-date outdoor clinic. In the event of difficulties or complications too serious to be met in the home, she may be sent promptly to the hospital.

The woman in comfortable circumstances may elect to go to the maternity department of a good hospital or to remain at home. In the latter and more likely event she will secure the services of a thoroughly trained nurse and of a good physician.

Between these two there is a third class, very large, which is too poor to secure and pay for first-class service, and yet not poor enough for the charity wards or charity organizations. Many of these people live in three rooms or less, which are often crowded and unsanitary. The total income of the family is often not more than the cost of necessities. Too poor to secure a good nurse and competent physician, they have too much pride to accept charity. The women in labor are often compelled to engage the services of midwives.

A physician can ill afford to attend such cases. Without a nurse of good judgment in attendance, he is likely to be called unnecessarily early. If detained there, he cannot be readily reached by phone and may lose a profitable case. Moreover, he runs risk of damage to his reputation in attending those who do not live under sanitary conditions or who are not able to secure good nursing.

The great need of these people is maternity hospitals partially endowed, which will provide lying-in facilities to these women at a very moderate cost. This solves at once the problem of nursing, and makes it easy to secure good medical attention. A physician can attend such cases in a good hospital with a minimum of inconveniences. He is reasonably sure that he will not be called unnecessarily. If detained by the case, he may employ the time comfortably and rest secure in the ability of other patients to reach him in case of need. The visits which may be necessary or desirable in the after-treatment are convenient and consume but little time, as he will likely have other patients in the hospital.

The ideal hospital for such patients is one having small wards accommodating from three to six cases each. The number should not be greater than one nurse can manage, as there would be no economy in going beyond this number. Moreover, the smaller the number in each room, the less suggestion there would be of the public hospital with its large wards.

St. Francis Hospital, Jersey City, N. J., is planning to celebrate its golden jubilee in June of this year. It is said to be the oldest public institution in the city, and in the fifty years of its existence has administered to over 100,000 people.

The old home of its donor has been selected as an appropriate site for the magnificent Zurbrugg Memorial Hospital soon to be erected in Riverside, N. J., under the terms of the will of the late Theophilus Zurbrugg at a cost of over $500,000.

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State Industrial Compensation Laws and General Hospitals.

State industrial compensation laws that have been pronounced valid by the higher courts have necessitated certain readjustments in hospital organization. This readjustment has become particularly imperative in states where the so-called "open hospital" exists. These hospitals permit any physician or surgeon in good standing to treat private patients in open or public wards at ward rates. "Staff or hospital" patients are differentiated from private patients solely on the score of the ability of the latter to pay the ward rates. The sole prerogative that distinguishes a member of the attending staff from the outside physician or surgeon in these hospitals is the privilege of treating free or charity patients assigned to his division. Based on this prerogative, the attending physician or surgeon has certain official duties and responsibilities not possessed by the outsider. These well-known distinctions in medical attendance on ward patients in "open hospitals" are mentioned in order to preface a clearer understanding of the operation of the industrial compensation laws in connection with these institutions.

The first effect noticed in general hospitals when the compensation law goes into effect is an increased demand for minimum or ward accommodations. This increased demand is due to the fact that employers of industrial labor and insurance companies carrying employers' liability insurance realize that hospital care and treatment may shorten the duration of the disability of the injured employee. Naturally they bargain for the minimum accommodations, though there are some exceptions to this rule. The employer and insurance companies also early discovered that general hospital care and treatment were more economical in the end, owing to the opportunities existing in hospitals for the use of x-rays, laboratory diagnoses, nursing, etc. Another element that is a prime factor in influencing the hospital care of the injured employee is the fact that the hospital records provide a greater legal safeguard in event of lawsuits arising during the adjustment of the degree of the employer's liability.

It is quite within a conservative estimate to say that the operation of the state industrial compensation act of Michigan has increased the demand for minimum hospital accommodations at least 25 percent. Without realizing the full import as to cause and effect, certain hospitals have increased their ward accommodations to meet this demand to such an extent that the income from endowment funds and the general receipts of these institutions can scarcely meet the difference between the rates charged and the actual cost of maintenance.

The difference between the rates obtained for ward patients and the cost of their care represents in most "open hospitals" a deficit that is met by the income from the endowment funds of the hospital. Hospitals with small or moderate endowment funds early realized that the application of these rates to liability cases worked an injustice; in other words, the employers and the insurance companies were assimilating a fixed percentage of the endowment income of the hospital, such percentage being represented by the difference between the ward rate obtained and the cost of maintenance of the injured or sick employee. In Massachusetts this condition was met by a unity of action on the part of the hospitals in Boston, whereby a rate was arbitrarily fixed that fully covered the cost of care and maintenance. Boston, however, is not a city of "open hospitals," and it was easier to meet the conditions that arose than is possible in states where "open hospitals" prevail. In certain states the application of increased or maximum ward rates, as applied to the hospital care of liability cases, has stimulated an increase in purely commercial hospital ventures. Mushroom hospitals have been organized and fathered by combinations of manufacturing or insurance companies, who at first assumed that the cost of

care of injured employees could be lessened through the operation of hospitals under their own direction. As the motive that prompted the organization of these ventures was strictly commercial, the organization and management has been made a part of the trade, and the medical and surgical service let to the highest bidder. In this connection it should be understood that these commercial hospitals are not to be confounded with the excellent institutions maintained by a few large corporations, notably at Homestead, Pa., and Gary, Ind. It has also been observed that the increased demand for hospital care of liability cases, especially in the middle West, came to the attention of certain physicians and "ambulance chasing" lawyers whose commercial instincts overrun their ethical conscience. As a result, several small strictly commercial hospitals have been established for the exploitation of this increased business. It is gratifying to observe that more than one of these commercial hospital ventures in the state of Michigan, where the compensation act has been in effect eighteen months, have met with disaster, and the manufacturing and insurance companies brought to realize that hospitals for the care of the sick and injured workman do not produce dividends in dollars and cents to their managers.

The commercial exploitation of the sick and injured laboring class, however, is but one of the minor features of the operation of state industrial compensation laws. Experience is rapidly demonstrating that the general hospitals offer the best field for the care of liability cases, and it has taken in most instances but a few months to bring about a realization of this fact. The great majority of the leading insurance companies have met conditions arising in connection with hospitals under the operation of the compensation laws with broad tact and tolerance. Many employers and insurance companies have earnestly sought to cooperate with the hospitals in the endeavor to have their insured treated under the very best auspices. A considerable number of employers and a few insurance companies have voluntarily extended the time of hospital care and treatment beyond the period prescribed by law—in many instances through months of treatment and convalescence.

The operation of state industrial compensation laws has also brought about a decrease in the number of staff or hospital cases. Before the operation of these laws all accident cases usually came under the control of the attending surgeons, and both the hospital and the injured employee took their chance of obtaining compensation as the result of a damage suit. The majority of employers and insurance companies, from the beginning, have insisted that their injured employees be under the medical and surgical attention of the company surgeon or physician, and the by-laws of "open hospitals" have permitted this practice; hence the obvious reduction in the number of staff or hospital cases available for clinical teaching or research work. From an educational standpoint, the result of the operation of the compensation law is to be deplored, even though the effect of this law insures the hospitals an increased remuneration. The law provides full payments for stated periods of hospital care of the injured, and relieves the hospital from any concern in the collection of fees or charges that formerly were never considered an asset until the money was in hand.

Unfortunately it has been held by the Industrial Accident Board of Michigan that the injured employee must accept any reliable physician designated by the employer or else pay the surgeon's bill himself. The courts have not passed on this ruling, and it is possible that it may be reversed.

To summarize, the new industrial compensation laws have called attention to the following:

1, an increased demand for ward beds and minimum hospital rates; 2, an increase in the number of paying ward patients, largely drawn from emergency cases that formerly constituted a part of the free and charity list of the hospitals; 3, as a sequence to the above, a diminution in the number of "staff" or "hospital" patients available for clinical teaching or research work; 4, a relative increase in the financial compensation to hospitals on account of the obligation of the employer to pay for all injured employees for a certain period; 5, a necessity for unity of action on the part of general hospitals—*first*, to increase the rates for liability cases sufficiently to cover the average per capita cost of maintenance, and, *secondly*, a revision of the by-laws of "open hospitals" so as to provide that the medical and surgical treatment of the injured workman be a responsibility of its attending staff, rather than that of the surgeon of the insurance company or employer.

W. L. Babcock.

Sanatorium Equipment.

III. A Definition.

Sanatorium equipment is becoming continually a more difficult problem, for what man may define a modern sanatorium? and who shall set its limitations? Already in these columns we have dealt briefly with this topic, but we must often return to it. In former days—even twenty-five years ago—a sanatorium was an obvious thing—a general sanatorium. It was a sort of country hotel, where chronic invalids went for change and rest, and

convalescents went for recuperation. In old times the ambitious and successful sanatorium had its special features—medical baths, electrical activities, church affiliations, mountain views, missionary conventions, special diets, and the like—all serviceable enough; but those sanatoriums scarcely pretended to a high scientific equipment or distinction of staff.

Then came suddenly the roll of medical progress of the past fifteen years, dwarfing and rendering more or less absurd the old-time sanatorium claims, while at the same time an even more vital blow was dealt at sanatorium methods by the surprising extension of the vacation idea. Twenty-five years ago sanatoriums were financially successful largely because they were quiet "summer resorts." Today the lakes and rivers, the forests, hills, beaches, ocean liners, and automobiles have drawn to themselves hundreds of thousands of the class who haunted summer sanatoriums in former times.

At first the sanatoriums suffered. Some survived by throwing over all medical pretentions; some by improving their medical work. Then, as the wave of hospital popularity and development swept over the land, the sanatorium promoters awoke to their opportunity and chased the wave. Sanatoriums multiplied; in some measure they have prospered, but their status and their equipment in the scheme of present-day medicine seem not yet determined. The old rule of the economists still holds—the supply justifies the demand.

What, then, is the demand? In spite of protests from a few pathetic old people, the present sanatorium demand is no longer for a quiet, easy-going summer hotel, manned by two or three general practitioners trotting about with pill boxes. Every seashore resort, with Atlantic City as the hub, has such an equipment as that. The ideal modern sanatorium is something very different. It is an important section of the great wheel of modern medicine; it is coming to rank with the great hospitals—for it is properly a hospital, though not in name; it is a special type of hospital, but with functions more diversified and wider even than the conventional hospital.

The genuinely ill are seeking the modern sanatorium. Last year a well-known sanatorium had a list of 4,502 admissions. Three hundred and ten were old-fashioned summer boarder cases; 4,193 were cases of genuine organic or serious functional disease. What has become of the great throng of old-time sanatorium patients? Mostly they no longer exist, for their diagnoses have now been made. The supply in that institution I have described is now approximating the demand. For such reasons "Sanatorium Equipment" becomes an increasingly difficult topic. First define your sanatorium.

Another sanatorium known to this writer decayed ten years ago as an old-fashioned summer hotel health resort. Occasionally acute illness developed among the "guests." So, a small surgical department was added and a local surgeon was called in. Business picked up. Later a proper medical department was developed, and then an orthopedic department. Now there is a neurological department, a children's department, and an obstetrical department. The old sanatorium features flourish also, especially for convalescents and the weary. Prosperity reigns. A further object lesson: twenty years ago an excellent small surgical hospital was established in a middle western town. It throve and expanded. In time it failed to meet the community's wants. A greatly needed medical department was added, and later neurological and orthopedic departments. Now they are building an obstetrical department, and plan a great rest house or *sanatorium*. These two successful institutions, though founded with differing intent, have now come closely to resemble each other in purpose and in type. They have yielded to the demand. We cannot longer neglect the interlocking and oneness of specialties and of all medical practice. Sanatorium equipment is no longer the simple thing it seemed. Cooperative medicine is coming into its own.

J. G. Mumford.

The Items in Hospital Efficiency.[1]

II. Hospital Pathology.

For convenience of discussion and analysis, the subject of hospital pathology may be divided into three problems:

1. What does the modern physician require if all the possibilities of medical science are to be employed in furtherance of his objects—namely, the diagnosis of the disease, the cure of the patient, and the education of himself and his generation?

2. What can he do without in a hospital of limited resources?

3. What arrangements are possible by which he may have access to all that he needs and some of which the hospital itself cannot supply?

It will be impossible to discuss this subject of hospital pathology, considering all hospitals under one class. Therefore, for the purposes of this discussion, we may divide hospitals into four classes, namely:

[1]This is the second in a series of eight papers discussing the various factors in hospital efficiency. Last month, "Introduction;" next month, "Physical Therapy."

1. The small struggling hospital of 25 beds or less.
2. Hospitals of 25 to 50 beds.
3. Hospitals of from 50 to 200 beds.
4. Large hospitals, either municipal or private, whose size and resources demand exceptionally elaborate hospital facilities. This fourth class will not come within the purview of these papers, because they will have the scientific guidance of trained pathologists who will know best how to meet their own problems.

Let us take the first proposition—namely, What does the physician require? Obviously, he will not require the same thing for all patients, and we are thinking now about the great variety of his work, day in and day out during the year, and independent of the class of hospital, or its size and resources.

First, he will require complete urinalysis—chemical, bacteriological, and microscopical.

Second, he will require blood examinations—(a) white, red, and differential counts; (b) the hemoglobin; (c) the blood pressure; (d) the bacteriology; (e) microscopic examination, which may go further than the bacteriology and the blood count.

Third, he will require the chemical and microscopical examinations of the secretions, sputum, stomach contents, feces, and, less frequently, the skin emanations.

Fourth, he will require diagnosis of the morbid growths, which we call tissue pathology, or surgical pathology.

Fifth, he will require certain clinical procedures, such as spinal puncture and the withdrawal of sufficient quantities of material for purposes of examination, all of which we may regard in the light of a distinct minor surgical technic, needed to be performed by persons specially trained in the work.

Sixth, he will require the introduction of antibodies, such as the antimeningitis serum, antitetanic serum, the diphtheria antitoxins, and the various vaccines, either stock or autogenous.

Obviously, if the physician is to do the scientific work, he must have all the above agents for his clinical purposes, but, equally obviously, the small privately conducted or meagerly supported hospital cannot give him all these advantages, and we, therefore, come to the third proposition, What other arrangements can be made for giving him what he needs and which the hospital cannot supply?

The American clinician, on occasion, has been compelled, because of the inadequacy of present hospital facilities, to help himself in regard to these pathological needs. Many members of the profession are forming small groups among themselves in their communities, and are employing one or more technicians, who do their work at some centrally equipped plant, under financial and physical arrangements that will best accommodate the conditions under which they are working. Too often it has been found necessary for these physicians to act independently of the hospitals in the community because of want of sympathy and spirit of cooperation in these institutions. This is not as it should be. The hospital in a community is the best possible center of all health activities, and anything like an adequate hospital administration will be better adapted to the control of these processes than any outside and independent agency for several reasons: first, because there is an organized and centralized system of management that can group together all the agencies for the prevention of disease and its cure, where the largest number of people interested are gathered together—namely, patients in the hospitals; second, because medical men have neither time nor inclination, nor are they best fitted, to take personal direction of the details of the necessary transactions in such a department.

In other communities the medical men have adopted the above suggestions, but because of the poor financial support accorded the hospital in their community they are themselves paying the expenses of what might be termed a department of pathology in the institution.

A third way of meeting these obligations is by way of a commercial laboratory, conducted as a business proposition in the community. Objections to this method of meeting the problem are, first, that it is predicated on the support of an entirely independent class of workers, which will make the work cost too much, either to the patients interested or to the physicians who are taking care of them.

A final way in which this matter is handled by many members of the profession in this country is not to handle it at all, and to do without the pathology demanded in modern medicine, and to depend entirely on the bedside examination, excepting where there is here and there a physician who has his own microscope, his own blood counters, and his own laboratory for urinalysis. No man has a right to practice medicine today without the employment of the agencies of the laboratory, and, obviously, the clinician who depends on his own private work in this field is leaning on a frail reed, because it is impossible for a clinician with any business of consequence to find time, not alone for the work itself, but to keep up his training in these matters.

If these foregoing propositions are correct, then

it is the duty of the hospital in the community to furnish for the physicians of that community necessary pathological facilities.

Now let us take up the various classes of hospitals as above divided, and see what we may expect them to do. Manifestly, the small hospitals of 25 beds or less cannot be expected to maintain a trained pathologist or laboratory director; but there is hardly a community in this country today that has not among its medical men, and more especially the younger men, someone who has the time and laboratory training to enable him to give the balance of the profession in the community a good many things that they will require. The services of such a man can be attracted by the payment to him of a small honorarium, either by the hospital or by the men who are getting the benefit of his work, and such payment can be made either as a monthly stipend or in the way of fixed charges for certain of the pathological proceedings, as, for instance, a dollar or two for a urinalysis, $5 for a complete blood examination, and so on. Another way to obtain the services of a qualified man is for the hospital itself to employ as resident physician one who has served an adequate internship in a good hospital, where pathology in all its departments has been held of consequence.

There are a good many of the technical operations that need not be performed immediately, and that can be sent away to a properly equipped commercial laboratory or to a large hospital, such, for instance, as the making of bacteriological cultures, although the apparatus and the technic for this work are so simple and inexpensive that there is no reason why they may not be done by a local technist, if there is one; the making of autogenous vaccines had better be sent away, unless the local technist is entirely capable of observing a rigid technic, because too many people are losing their lives owing to faulty technic in the making of vaccines and serums by incompetent people. In a good many cases stock vaccines may be used that can be purchased and sometimes kept on hand, if there are properly controlled refrigerators. There are some vaccines that must be made up from the patient himself, as, for instance, the streptococcic vaccines. There seem to be so many strains of these microorganisms that a stock vaccine made from one strain will be ineffective in other cases. The large hospitals have found that the stock streptococcic vaccines are applicable in only a very small proportion of cases. In all these cases the cultures can be taken and transported to a properly equipped and technically operated laboratory, where a rigid technic can be employed in the perfection of the vaccines.

The diagnosis of morbid growths—such as the tumors, either previous or subsequent to operation—need not of necessity be done at the local hospital or in the local laboratory. It is an extremely simple matter to prepare these tissues so that they will remain "fixed." It is not necessary, either in a hospital or elsewhere, to have facilities for making tissue diagnosis from frozen sections. This process is unsatisfactory, and without question has done an immense amount of harm, and the ablest pathologists are declining to do frozen section work. The conditions under which this work is usually done are these: the patient is on the operating table, and the surgeon wishes to have a diagnosis of the growth, so that, in the event it is found to be malignant, he can prosecute his work into deeper tissues than would otherwise be necessary, and, if the tumor is benign, he can stop with the mere removal of the growth itself. It is coming to be assumed in surgery that every morbid growth in a patient past middle age is either malignant or on the way to malignancy; and, as there is a beginning of everything, there must always be a beginning or starting point, or nucleus of malignancy in any growth. The fact of the frozen section showing the growth to be nonmalignant merely means that the particular section examined was not malignant, and many thousands of times tissues that have shown nonmalignancy on frozen section have developed areas of malignancy deeper down where repeated sections have been taken. As a matter of fact, the frozen section diagnosis often gives rise to a feeling of security not warranted by the facts, so that administrators of hospitals and members of the medical profession need not concern themselves very greatly with facilities for doing frozen section work. The astute surgeon will not take the chances of a frozen section diagnosis, and will give the benefit of the doubt to the patient by assuming malignancy in every doubtful case and performing his operation accordingly.

Having arrived at something like an agreement as to the status of clinical pathology, and having discussed briefly some of those things that the physician has a right to expect under certain circumstances, we can perhaps tabulate the equipment in various classes of hospitals outlined above:

EQUIPMENT FOR SMALL HOSPITAL OF LESS THAN 25 BEDS.

1. Reagents, stains, glassware, tubing, bunsens, and miscellaneous supplies	$ 50.00
2. Microscope (better get a good one)	100.00
3. Hemacytometer (either Turck ruling or Thoma-Metz)	15.00
4. Hemoglobinometer (preferably Dare's)	24.00
5. Blood pressure apparatus (Stanton)	20.00
6. Centrifuge (water mechanism)	10.00
7. Incubator (electric light chamber will do)	10.00
8. Ice box	15.00
	$244.00

EQUIPMENT FOR HOSPITAL OF 25 TO 50 BEDS.

1. First five items in above list	$209.00
6. Centrifuge (velocity of 6,000 revolutions for bacteria)	50.00
7. Incubator (thermo regulated, gas or electricity)	75.00
8. As above	15.00
9. Autoclave sterilizer for bacteria	100.00
	$449.00

EQUIPMENT FOR HOSPITAL OF 50 TO 200 BEDS.

1. Nine items as above, except ice box	$434.00
Add for greater quantity and variety of miscellaneous supplies	50.00
Add at least two more microscopes	200.00
8. Ice box (thermo elect. temperature control for keeping vaccines and serums)	150.00
	$834.00

Some technicians prefer the Sahli hemoglobinometer instead of the Dare. The Sahli costs only $6. An excellent blood pressure apparatus, employing all the principles of the Stanton, but without the heavy iron stand, can be bought for $8. It is probable that most pathologists in large hospitals would want a more expensive incubator than the one proposed in this paper; $150 would be the outside limit.

In this schedule for the larger hospitals no provision is made for paraffin ovens, paraffin and celloiden microtomes, and Koch sterilizer, all of which most pathologists will want. Nor is provision made for an autopsy outfit in any of the schedules. A proper outfit, excepting the table, can be put in for probably $25.

JOHN A. HORNSBY.

The Chicago Situation.

On another page of this issue will be found a letter from Dr. Charles H. Parkes, secretary of the Chicago Medical Society, concerning the propaganda of that society for isolation hospitals on three sides of the city of Chicago.

Last month there was an editorial in these columns finding fault with the Chicago Medical Society for urging these three institutions, on the supposition that they were to be independent acute disease hospitals.

THE MODERN HOSPITAL is glad to make the correction and to state that the society proposes that the three hospitals urged are intended for acute infectious diseases only, and that these shall accept pay as well as free patients.

This present writer is glad to agree with the Chicago Medical Society that the public isolation hospital should take pay patients for two reasons: 1, there are many persons abundantly able and perfectly willing to pay for private accommodations, and whose home environment will not permit them to remain there during a communicable illness, as, for instance, they may be living in a hotel or they may belong to a family whose members cannot afford to be isolated with the patient; these people have a right to better accommodations than the public can afford for its free charges—not necessities, but luxuries; 2, private hospitals are not equipped to take care of infectious cases without undue hazard to patients suffering from other diseases; in fact, the ordinances of the city specifically prohibit the acceptance of these cases by private hospitals, unless there is a license distinctly for the purpose. Where are these people going unless the public hospital takes them? And must well-to-do, refined people be humiliated by being treated as paupers?

But this present writer does not believe that three isolation hospitals are needed. As a rule, these patients are not desperately ill when moved; there is so little difference between a haul of one and ten miles in a good, well-warmed ambulance that it is not worth considering. Three separate hospitals mean the triplication of all the special hospital equipment, overhead charges for administration multiplied by three, which will be unnecessarily burdensome on the taxpayers without any compensating good. As for visitors in an isolation hospital, visitors have no business there, except for emergency reasons, and then they can well afford to go a little further.

This present writer does not agree with Health Commissioner Young that a public isolation hospital should take well-to-do patients free, and give the same treatment accorded free patients.

JOHN A. HORNSBY.

Fee Splitting in Hospitals.

Fee splitting in the medical profession has come to be a national disgrace. One of the reasons for the creation of the new American College of Surgeons was to put an end to a practice that has for its result, if not for its object, the exploitation of the sick, who are unable to discriminate between honorable and dishonest men.

Fee splitting is especially vicious in hospital practice, because the patient in the hospital is under more exclusive control of the medical man and less likely to have his friends and family interfere with what is called "passing the patient around" among various specialists. The hospital administration may be, and often is, quite well aware of the insidious methods being practiced by unscrupulous physicians to bleed their patients, but, for obvious reasons, may not interfere.

These fee splitters not only make business deals by which outside physicians send in patients, the fee for whose care is to be divided, but the men in the various specialties in the hospital itself pass patients around among themselves—"You tickle me, I tickle you." This is the most vicious of all fee splitting, because it is so difficult to detect.

The medical attendant thinks the surgeon should see the case; both of these want the neurologist to go over the reflexes; the eye grounds are wanted; perhaps it may be desirable to have a throat man look at the tonsils for some connection with appendiceal symptoms, and so on through the whole "vicious circle." Who shall say when these consultations are necessary and when they are merely a form of loaded dice or marked cards?

Fee splitting in all its ramifications should be stopped. Perhaps the American College of Surgeons can help. If the effort is made, it will probably start in its own membership, because some of its members are not above suspicion—"Take the beam out of thine own eye first, then canst thou see the better to pluck the mote that is in thy brother's eye."

Grace Hospital, Detroit, has endeavored to entrench itself against fee splitters by compelling all staff members to subscribe to the following declaration:

"I hereby promise upon my honor as a gentleman that I will not, so long as I am a member of the Grace Hospital medical staff, practice division of fees in any form; neither will I submit bills for others referring patients to me; nor will I permit them to submit bills for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me; nor will I utilize any man as an assistant as a subterfuge for this purpose. I furthermore agree to studiously avoid visiting, treating, or advising the patient of another physician without his knowledge and consent; and furthermore agree to maintain in my relations with other physicians the highest recognized standard of medical ethics, whether in consultation or in hospital work."

Other hospitals must move against this evil. There will continue to be dishonest men in medicine, as there are dishonest men in every profession; these will continue to prowl about and prey on the public, but hospital boards can drive them out of their institutions and thereby cut them off from the best agent for their nefarious practices.

Standards in Nurse Training.

At the Conference on Medical Education, held in Chicago the last week in February, there was a memorable tilt at arms between two of the doughty knights of the science of teaching, the points of which have so general a bearing not only on medical education, but on the training of a nurse, that we feel like rescuing this one gem from the prodigal wealth of wisdom which emanated from every crack and cranny of the conference, and appropriating it to the use of hospital training schools everywhere.

President A. Lawrence Lowell, of Harvard, read a paper on premedical education, in which he took the ground that it did not matter quite so much whether an applicant for matriculation had qualified in a mediocre fashion by performing so many hours in a fixed and unalterable number of basic studies, as it did that he should have studied a few things well, no matter even if those things were not quite germane to the profession to which he was aspiring. Professor Lowell thought it was highly necessary that the candidate should have done whatever work he had attempted well enough to demonstrate his high quality of mind, and his ability to pick up his future studies in a masterful way—the particular studies themselves were of lesser importance, because such a mind as he was thinking about could master any of the medical studies successfully. Moreover, he thought mediocrity in a great number of studies indicated mediocrity in the man, and he thought the medical profession needed, if it needed any one thing more than any other, men brilliant in some one direction. He cited in support of this the great specialists in all branches of science—they were none of them drudges with a universality of learning.

Dr. Victor C. Vaughan, dean of the University of Michigan Medical School, in the discussion of President Lowell's paper, was a stickler for the prescribed studies; no man could master modern medicine without a preliminary knowledge of biology, chemistry, and physiology, he was sure, and the only adequate guarantee of this knowledge was the credits from the school in which the work was done. Dr. Vaughan thought some definite rules concerning the premedical education were necessary; the men, after graduation in medicine, could give free vent to their inherent inclinations, but before that they must go the beaten route.

This discussion by these eminent educators is full of meat for training school teachers, and brings up for serious thought the problem of the qualifications of young women who apply for admission of training schools. Is it better that a girl shall have had the little smattering of learning, on many subjects, provided in most modern high schools, with all their fads and isms, or that she shall have demonstrated her quality of mind and her inherent ability as a competent worker and student in a few studies in which she has gone far and done much?

It is said by some psychiatrists that only the average, well-balanced man is sane—which is another way of saying that only mediocrity is sane, and that all geniuses are psychopathic, because they are not well-balanced. The world has gone forward at the hands of genius—the one-idea man. Are we to lose the cooperation in the world of nursing of the young woman who is a genius in

one direction, but who has been a failure in most of the drivel taught in the schools?

If we are to harvest the fruit of these brilliant minds, will we not have to rearrange our "standards" to take in candidates as the result of a personal and individual inquiry as to their *capacity*, and not on the basis of their having performed so many hours on the tread mill?

The St. Paul Meeting.

Elsewhere in this issue are some announcements concerning the coming St. Paul convention of the American Hospital Association, sent out by Dr. H. A. Boyce, secretary. Readers of THE MODERN HOSPITAL will profit by studying these announcements.

Without in any way belittling past conventions, it may be said that the Boston meeting last year was all around the best ever held. More strong people were present and took part, and the meeting was divided up into sections, so that more workers had an opportunity to take a personal part in the proceedings. The Boston gathering was very full of meat for those who went there to learn what other workers were doing.

And now comes the St. Paul meeting with a promise of even greater things. If the East is more settled in its ways of doing things, if organization and system have been brought to fuller development in the East, and if there has been a broadening out and a greater specialization in activities that have to do with the care of the sick, there is in the West a buoyancy of energy, a dashing purpose, and an indomitable spirit that shall in the end keep its people in the van of progress. And the East and the West, with their efforts pooled, must bring us far in the common work of caring for the sick.

Already there are assurances enough to guarantee a splendid attendance of splendid people at the St. Paul meeting, and the program is a long and interesting one, not alone for those engaged in the work of general hospitals, but for those interested in all the special fields. Perhaps fifty hospital workers are now employed in preparing papers and discussions to spread for the St. Paul feast.

Surely as many hospital people as possible should attend—superintendents, trustees, staff members, and nurses.

Hurrah for Iowa!

Elsewhere in this number will be found a letter from Dr. C. A. Boice, of Washington, Iowa, taking THE MODERN HOSPITAL to task for giving to Jefferson County, of that state, credit for the first county hospital under the county hospital law. THE MODERN HOSPITAL is glad to stand corrected. Dr. Clarke, of Fairfield, Iowa, in his paper claimed no priority honors for the Jefferson County hospital; the error was that of the editor.

However, the incident of Dr. Boice's protest is a matter for congratulation to Iowa and to those who fathered and worked for the law. There was a time when Dr. Munger, who worked and spoke for the law, in season and out, and those other far-seeing men who did what they could, were almost discouraged because there seemed to be a very strong opposition to the bill in the Legislature and to its enforcement after it went on the statute books. For two years Washington and Jefferson were the only counties that accepted the provisions of the law; now it seems the people of the whole state are in favor of it. Moreover, other states have fallen in line, and another "Iowa Idea" is rapidly becoming a nation-wide practice.

There is "honor enough for all," Dr. Boice—for you and for your county, for Dr. Munger and Dr. Clarke, and for the progressive people of both counties, and for all the people of your state. While such men are carrying the banner of progress, Iowa ideas may be expected to grow and multiply in consonance with Iowa's wheat and corn and fat cattle. Hurrah for Iowa!

Our April Cover Design.

Our cover design for this month is the tuberculosis pavilion of the Montefiore Home, New York City, an institution for the care of chronic invalids. The architectural arrangements of the buildings composing the group that constitutes the home have been specially devised for the needs of the particular cases received. A very interesting description of this institution by Dr. Siegfried Wachsmann, with illustrations, is printed in this issue.

Rapid increase in the number of "dope fiends" all over the country is being felt by those in charge of the state hospitals for the insane. The latest voice concerning this condition comes from Montana. Governor Stewart, of that state, has received a letter from Mayor Duncan, of Butte, asking that the state hospitals help the city in caring for these unfortunates who crowd in from all the outlaying territory on the first signs of cold weather.

"I have bent every effort possible in conjunction with the other members of the board to try to relieve the stress at the state asylum," says the governor in reply. "While we are getting some results, the increase of patients is so great that there is only one way whereby we can save the day, and that is by legislative appropriation of sufficient money to enlarge and take care of the ever-increasing number of patients. When this is done, provision ought to be made, and no doubt will be made for the unfortunates you mention."

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The Place of Trained Nursing in Woman's Kingdom. Editorial. Brit. Jour. Nursing, February 28.

The object of the editorial is to show that children's welfare is woman's kingdom. While woman's position in the business world is debatable, there is one place she must be conceded—namely, the field of nursing, the care of the sick. It is proposed to develop this problem and this answer at the Children's Welfare Exhibition to be held at Olympia, April 11-30, in the woman's section to be conducted under the auspices of the National Union of Women's Suffrage Societies.

A New Ausculation Set. London Lancet, January 31, 1914.

The journal claims for Teske's "standard" ausculation set an ingenious form of stethoscope, with several new features. Both chest piece and binaural attachment are capable of various modifications designed to render the instrument more delicate and more comportable. Used as an ordinary stethoscope, it is a good conductor of sound. The drum attachment intensifies the sounds. It is a useful instrument when breath sounds are weak, or cardiac sounds are distant or indistinct. The adjustable spring and the ear piece attachnd to tubes are commendable features. The instrument is from Messrs. C. A. Teske, Limited, Tottenham Court Road, London, W.

The New Central Purchasing Office for German Sanatoriums (Die neue Einkaufszentrale deutscher ärztlicher Heilanstalts-Besitzer und Leiter). Woelm. Heilanstalt, Leipsic, 1914, IX, No. 3.

The director of a sanatorium has so much to do and to look after so many things that it is impossible for him to pay proper attention to purchasing aliments and all those things needed for the patients. Besides this, he usually lacks the business experience and necessary knowledge as to quality and price of the articles to be purchased. For these reasons a number of sanatoriums established a central purchasing office in Breslau. At the head of this office is a medical man who has had a large experience in sanatorium work. The institution has so far been a success. The society has at present fifteen members. The membership fee is 50 marks ($12) for each sanatorium.

The Florence Nightingale Medal. Am. Red Cross Magazine, 1914, IX, No. 1.

The committee in charge of the Nightingale Foundation have adopted a medal to be awarded in recognition of great and exceptional devotion to the sick and wounded in peace and war. The medal bears a reproduction of the famous statuette of Florence Nightingale known as "The Lady with the Lamp," suggested by Longfellow's poem. As the Foundation is in commemoration of the service rendered mankind by Florence Nightingale, who established the first modern school for the training of nurses, it seemed appropriate to award the medal only to trained nurses. Six of the medals will be available annually, and the number may be doubled in event of war. No more than one candidate a year can be proposed by any country, and the final award will be made by the International Red Cross Committee at Geneva.

On the Importance of Ophthalmic Training for Nurses. Ernest Thomson, M. D. Brit. Jour. of Nursing, February 28.

The writer thinks that so much and such irreparable harm can come of the violation of the most rigid technic in this field of nursing, and that a good knowledge of surgical asepsis from the nursing standpoint falls so far short of adequacy in the care of eye cases, that training schools should give a very special training to pupils. This training should very carefully cover the care of eye instruments. Another phase of this training hinges on the fact that so many operations on the eye must be done under local anesthetics. The well-trained nurse can be of untold value to the surgeon in helping in a moral, suggestive way with the patient. She can prepare the patient by teaching him what is expected of him, and how he should behave, especially in the cases of foreigners and children. She must also teach the patient the necessity for patience after the operation, teach him to leave the bandages alone. The nurse must also know how to apply and readjust bandages in these cases, because they sometimes need changing.

Quackery and Hospitals (Kurpfuscherei und Heilanstalten). H. Kantor. Heilanstalt, Leipsic, 1914, IX, No. 3.

Quackery is flourishing in Germany, as there are no legal restrictions on the practice of medicine as long as the quack does not pose as a physician or use the title of doctor (Kurierfreiheit). Many quacks establish private sanatoriums to attract patients. The business of legitimate institutions is thus directly affected. It is true, the law requires that every private hospital or sanatorium must be under the direction of responsible licensed physicians, and it would thus appear that quack institutions were impossible. But there are many private sanatoriums where the physician does not hold the position which the law gives him. The "proprietor" of such an establishment frequently usurps the title of "director," and the physician he employs plays only a miserable secondary role. Lately a number of these sanatorium quacks have been brought before the courts, and in all cases the courts decided against them. In one case, where the patient lost an eye through an improper treatment, the court held the proprietor responsible and not the physician. The supreme court of the empire confirmed the decision of the lower court.

Parent or Guardian's Consent to Anesthetic and Operation on Minor Child. Medical Record, February 14, 1914.

The journal reports the case of a child of 11 being taken by an adult sister to a surgeon, who she permitted to operate for adenoids without knowledge of parents. There was no emergency, and the life of the child did not depend on the operation. The child died. In an action for death it was held the child had no authority to consent to the operation on its own behalf. The sister's authority depended on the parents' authority being delegated to her.

In the absence of any such evidence the surgeon performed an unlawful operation, and warranted recovery for death of child independently of negligence in the operation. The court held that the law, as enunciated by the few courts which have passed on such cases, is not as satisfactory as should be in cases of such character; that the physician is liable for operation unless he gains consent of patient, if competent, and, if not, of some one legally authorized to give the requisite consent. The only exception would be emergency, when delay would endanger life of patient. The question of consent of parents is held to be one of fact, which should have been submitted to the jury. Judgment for defendants was reversed and the case remanded. Rishworth vs. Moss, Texas Civil Appeals, 159 S. W. 122.

1,500 or 8,000 Marks for a Hospital Bed? (1,500 oder 8,000 Mark für ein Krankenbett?) Hans Winterstein. Hygiene, Berlin, 1914, IV, No. 1.

In making the plans for a new tuberculosis hospital, the Board of Public Buildings of the city of Berlin recently estimated the cost at 8,000 marks ($2,000.00) per bed. The daily press at once attacked this estimate and called it extravagance, and one of the city aldermen even claimed that in the country a tuberculosis hospital could be erected for 1,500 marks ($375.00) per bed. The board, however, could not be influenced by these attacks and stuck to the original estimate. The author defends the board in its action, and undertakes to show that a modern hospital cannot be built for less than 8,000 marks per bed. He shows by statistics that during the last fifteen or twenty years the building costs of a hospital have been constantly rising; even as far back as 1902 Beelitz Hospital was erected at a cost of 1,500 marks per bed. The Prussian regulations demand for each bed an air space of thirty cubic meters, with a floor space of 7.5 square meters. If the accessory rooms, corridors, stairways, bath houses, kitchen, drugstore, library, etc., are taken into consideration, it will be found that the Board of Public Buildings did not exceed reasonable limits in estimating the cost for the new hospital at 8,000 marks per bed.

Entertainment and Occupation of the Patients (Die Unterhaltung und Beschäftigung der Kranken). Ztschr. f. Krankenanstalten, Leipsic, 1914, X, No. 7.

The mental condition is an important element in the cure of disease. Weariness and dullness of surroundings have a very unfavorable influence. Unreasonable complaints about the fare and the treatment are usually always due to the fact that the patient is restless and his mind unoccupied. It is therefore the duty of the hospital administration to keep the patients in good humor and to divert their mind from groveling moods. For this reason the rooms must have a pleasant aspect. Pretty pictures, flowers, plants, etc., should be used to make the room attractive. But nothing is more calculated to busy the mind than the reading of a good book. For those patients who can leave their bed it is a most agreeable change to walk or sit in the gardens and parks surrounding the hospital. Singing and musical entertainments have also been introduced in some hospitals. Much more difficult is the question in hospitals for the insane, though an immense progress has been made in this respect. Instead of the prison-like hospitals of earlier times, we have now everywhere beautiful buildings, with an attractive interior and pleasant surroundings. But a very important auxiliary agency in the treatment of mental diseases is the occupation of the patients in the open air, especially with garden work. Many hospitals for the insane have large land complexes connected with the institution under cultivation. Many patients can be set to work in the cultivation of the fields, in sowing, plowing, harvesting, etc., and there is no more beneficial, stimulating, and invigorating influence than this kind of work. Many of the females may be put to work in the kitchen, laundry, or in light tasks in the open air. Very beneficial are the visits of relatives, with whom the patients can have long talks.

The Hospital for Poor Jews at Jerusalem. Hospital, London, 1914, V, 55.

A correspondent sent us the following particulars about the Medical Mission at Jerusalem: "The new hospital of the Jerusalem Medical Mission in connection with the Society for Promoting Christianity among the Jews, which was opened in 1897 (though the Medical Mission itself was founded in 1824, and numbers among the names of its medical men those of Drs. Dalton, Macgowan, Nichols, Sandford, Sims, Simpson, Atkinson, Chaplin, D'Erf Wheeler, and many others, and a hospital has been in existence from 1844), is built on a semi-circular plan and on the pavilion system. The center of the semi-circular block contains the administrative offices, theater, and nurses' quarters, at the extreme east of the semi-circle is the outpatient department, and at the extreme west the house of the senior medical officer, Dr. Masterman. There are six wards—the 'Norfolk and Norwich' and the 'Cadbury Memorial' wards for men, the 'Chapin' and 'Meath' wards for women, and two 'Axford Memorial' wards for children. There are in all 69 beds—19 for men, 26 for women, and 24 for children—available for poor Jews, with the addition of three single-bed wards for travelers. The hospital staff consists of two medical missionaries, six English nurses, two dispensers, and some native assistants, who are taken into the hospital to be trained as probationers; and, when it is stated that there is usually one nurse on furlough, one on night duty, and one working on a certain district, it will be seen that the work is considerable. There are two kitchens situated in the administrative block—one for the preparation of 'Kosher' food, which is bought, cooked, and served only by Jews; the other for the food for the staffs, etc.—that is, the Gentile kitchen. At the extreme rear of the central block is a small isolation block. The work of the Medical Mission lies not only within the hospital, but home visits are paid by the staff, and dispensaries have been opened both in the city and at Siloam. The opposition of the rabbis is naturally a great hindrance, but the gratitude of the people is very real, and there is a great opportunity for work."

The Kaiser-Jubilee-Hospital of the City of Vienna (Das Kaiser-Jubiläums-Krankenhaus der stadt Wein). Max Setz. Ztschr. f. Krankenanstalten, Leipsic, 1914, X. No. 4.

The city of Vienna has nine large public hospitals, all under a central administration. These nine hospitals contain 6,400 beds. Besides, there are a number of private hospitals containing about 700 beds. But, as the city is constantly growing, the hospitals cannot accommodate all the patients asking for admission. For these reasons the city decided to erect a new hospital, and to dedicate it to Emperor Francis Joseph in commemoration of the sixtieth anniversary of his ascent to the throne. This new hospital was built at an expense of 11,000,000 crowns. The hospital lies on a gentle slope a considerable distance west of the city. A street car line coming from the city passes in front of the main entrance. The hospital grounds comprise 152,000 square meters, 14,600 square meters of this area being taken up by the buildings. The four large buildings, which constitute the hospital proper, are

grouped around a large square park, in the center of which stands a large ornamental fountain. On the east side of this central park stands the administration building, flanked by two dwelling houses—one for the director, the other for the hospital physicians. The other three buildings receive the patients. The building on the north side contains the surgical ward with 122 beds, the division for skin diseases with 143 beds, and the physio-therapeutic institute. The building on the west side contains, in the center, rooms for 130 nurses, and in each wing a division for internal diseases, with 486 beds in all. The southern building contains a ward for diseases of women (82 beds), one for genito-urinary diseases (48 beds), one for diseases of the eye (53 beds), and a ward for ear, nose, and throat diseases (60 beds). Thirty percent of all patients are placed in small rooms with from two to six beds. The larger halls contain either twelve, eighteen, or twenty-six beds.

Three smaller groups of buildings comprise the kitchens, the building containing the heating apparatus, a garage for automobiles, the patho-anatomical institute, and the disinfection building.

The Hospitals of Norway (Les hopitaux de Norvège). P. J. Ménard. Paris Médical, 1913-14, XIV, No. 4.

The author visited the hospitals at Christiania, Bergen, and Trondjem. The Rigs Hospital, or national hospital, is located at Christiania. It is connected with the university and furnishes all the clinics for the medical school. The hospital is in the center of the city. The buildings are old and are of little interest. The city hospitals are of modern construction, having all been erected during the last fifteen years. They are located two miles from the city, with which they are connected by a street car line. These hospitals form an imposing group of pavilions. The buildings are of red brick, and present a cold, stern, even gloomy, appearance.

The city of Bergen has lately built a new hospital. It is located in the country and commands a beautiful view of a green valley which extends down to the sea. All patients who are able have to pay. The city pays for those patients who are without means.

In Trondjem the author visited the leper asylum. It is located in the open country, four miles from the city. The buildings are of brick, and are very old and shabby looking. The hospital contains about 100 patients, who are all cared for free of charge.

On his visit to the hospital of the Scandinavian countries the author was especially impressed with three facts—the exalted position of the hospital physicians, the high standing of the nurses and other persons connected with the hospitals, and finally the spirit of hospital discipline. In all the Scandinavian hospitals the physician-in-chief, the assistants, and interns have their home in the hospital and are highly respected, and no nonmedical authority can interfere with them, as is frequently the case in French hospitals. In Scandinavian hospitals the physician takes the first place, and to this fact the Scandinavian countries, especially Sweden and Denmark, owe their splendid hospitals. The high standing of the nurses and the discipline follow from this untrammeled authority of the physician, for the authority of the physician is double—administrative and moral. The administrative authority acts by coercive obligation, the moral authority by the idea of duty. The sense of duty produces personalities of high moral value, who respect each other and command the respect of others. It is this high and influential position of the physicians which enables them to select nurses among the better classes—persons with a careful education and of a high moral standard.

The Hospitals of Stockholm (Les hopitaux de Stockholm). Menard. Paris Médical, 1913-14, XIV, No. 3.

In Sweden a state board of health supervises the administration and management of all hospitals. This board is composed of various specialists—physicians, architects, pharmacists, etc. At the head of each hospital is a board whose members are appointed by the state board of health and which consists of a physician-in-chief and three or four prominent men of the community, but the physician-in-chief is always and everywhere the director of the hospital. This principle is the basis of hospital organization in Sweden, and the medical predominance is very marked. The physician is absolute master in his hospital, and each hospital is absolutely independent and is subject only to th control of the state board of health.

The author visited most of the hospitals of Stockholm. Allmanna Barnhuset, a hospital for children, corresponds to the Hopital des Enfant-Assistés in Paris. It consists of a number of large, plain brick buildings surrounded by large, well-kept gardens. Extreme cleanliness reigns everywhere. The hospital contains about 200 babies, which are attended by about 135 wet-nurses. The nurses are permitted to bring their own babies with them.

The largest hospital in Stockholm is Sabbatsberg Hospital. It contains still some old pavilions, but the greater number have been erected in recent years. The buildings have a cold, austere appearance, but the order and cleanliness, which are evident everywhere, testify to the efficient management. The patients are received absolutely free.

Saint Seraphin is an old hospital, and is attached to the medical school. It contains all the clinics except the pediatric, obstetric, and oto-rhino-laryngological clinics.

Of special interest is Lilla Hemmet, the "Little Home," a hospital for syphilitic children, founded by Dr. Welander. It contains from 30 to 50 children, brought here by their mothers, who were unable to take care of them. They are cared for free of charge until they are four or five years old, or until they are cured, when they are returned to their mothers or sent to farmers in the country. The hospital, with its beautiful park, its walks, its gay colors, its orderliness, and its happy children, makes a pleasant impression. It is truly a "little home," a paradise for children.

A Hospital Unit in the University of Budapest. E. Graham Little. Brit. Med. Jour., London, 1914, I, 254.

Dr. Little furnishes in concise form a notable illustration of the permanent benefit to mankind of the hospital clinic. In a recent visit to the university he enjoyed exceptional opportunity of studying conditions governing medical tuition in a great continental university—the practice in a hospital clinic in the University of Budapest, the largest of three in Hungary, that boasts of 8,000 students, 3,000 of whom are medical. The revenue of the university is from private property, fees of students, and a Government grant, making an income of about £23,000. Its salaried professors are compelled to retire at 70, and enjoy a pension governed by duration of service. After a period of thirty-five years of professional work the pension equals the salary at date of retirement. The professors are allowed as much practice as compatible with their duties of lecturing. There is a medical faculty of twenty-seven chairs, and its professors are provided with handsome, well-built houses. The fifteen clinics are from a list of 80 to 200 patients.

There are proportionate accommodations for the out-

patients, laboratories, etc. Food is furnished on requisition from an outside kitchen and sent daily, each ward being provided with a means of heating the food. The medical instruments, heating, lighting, laundry, and animals for experimental purposes are supplied from the central administration. Of the numerous clinics he attended, Dr. Little selects the dermatological clinic as one especially interesting, which originally consisted of three floors for in-patients. The middle floor is for housing the laboratory and the magnificent library, which occupies an area of 340 square meters. The ground and second floor are for the male and female patients. There are 78 available beds. On the ground floor are to be found the out-patient department and a fine theater of 300 seating capacity, affording an excellent view of photographs and slides on the demonstration screen. The clinical lecture, of which there are five per week, is regarded the keynote of teaching, as in most continental clinics, and is the sole obligation of the professor, whose routine hours are as follows: 8 a. m. to 9 a. m., visit in wards; 9 a. m. to 11 a. m., visit to out-patients; 11 a. m. to 12 m., administrative duties; 12 m. to 1 p. m., clinical demonstration in the theater; 2:30 p. m. to 4:30 p. m., private practice at his own house; 5:30 p. m. to 9 p. m., hours usually spent in the clinic in research and preparation of the morrow's clinical lecture.

The last class averaged 570. There are fourteen qualified doctors to assist, an artist for the wax model department, three female assistants in laboratory, a machinist, and electrician, with the usual staff of male and female nurses, washmaids, etc. The theater is well lighted, and its walls are lined with glass cases that contain a remarkable collection of parasites, plants, and finished pharmaceutical products. The adjacent library contains the finest collection of dermatological works, the most valuable being the incunabula and early printed books. The clinical lecture the author regards a complete and perfect instrument for demonstration to large classes. The cases of disease illustrating the lecture are furnished by the ward and out-patient department where possible. A large and excellent collection of colored photos, wax models, and histological sections are available for study. Projections thrown on the screen by an instrument, the invention of Prof. Nekam, is a great improvement on the epidiascope, as the former are given without darkening the room.

The University of Budapest requires the graduate, before admitted to practice, to attend for two semesters the practice of some optional clinic, of which there are six. Facilities are offered for a small percentage to attend, before qualification, the practice of the five privat docents licensed to teach dermatology in the faculty of medicine. The writer looks on this system of insuring a large and permanent body of skilled assistants as offering opportunities for advancing knowledge which are absent from our "starved schools of medicine."

Miscellaneous.

Government Experts and Meat Inspection.

Since the present law became effective, in the last seven years more than 377,000,000 animals have been inspected at slaughter, of which 1,100,000 carcasses and 4,750,000 parts of carcasses have been condemned. Reinspection of meat and meat food products amounted to 44,000,000,000 pounds, of which 148,000,000 pounds were condemned on reinspection, and 8,000,000,000 pounds were certified for export. Federal inspection is maintained at 792 slaughtering and packing establishments, distributed over 227 towns and cities. A force of 2,400 experienced veterinary inspectors and assistants are in Government employ.

Sale of Bichloride of Mercury.

The Board of Health of New York has adopted a sanitary code regulation that prevents the sale of bichloride of mercury at retail, except on a physician's prescription. The additional precaution provides that the word "poison" be stamped upon the article and that the tablets be kept in containers labeled "poison." The code is effective from March 1, 1914.

Venereal Disease Pavilion.

The Long Island College Hospital, Brooklyn, has opened its annex to be devoted solely to venereal diseases. The new pavilion can accommodate 60 male patients; it is two stories in height, the upper for gonorrheal and the lower for syphilitic cases. It will prove a welcome innovation in city hospital facilities, for, with few exceptions, no private hospitals have heretofore accepted venereal cases, and those needing treatment have been forced to enter public hospitals. Those who wish to pay for privacy can be provided in two small wards, with four beds in each. The most approved modern treatment is to be had, with especially trained male nurses in attendance.

Misuse of Charity.

We learn from the report of the Philippine director of health how the free out-patient service has been used by persons who should have employed private physicians, an evil not readily corrected for fear of denying worthy indigent patients relief. The abuse assumed such proportions, however, that the local medical society was called on to select a suitable person to pass on the financial ability of all applicants for relief. In failing to respond to the request, an agent was selected by the director of health, and now all persons believed to be able to employ a private physician are refused relief. It is a well-established fact that physicians in many of our cities are rendering charitable services to the value of thousands of dollars. Medical journals are advocating the employment of paid agents and inspectors to investigate the standing of all applicants for charity. The hospital, clinic, and dispensary would share in the protection against such abuse of charity.

At the instance of the Southwestern Conference on Tuberculosis and the Texas Public Health Association a bill has been introduced in the United States Senate by Senator John F. Shafroth, of Colorado, and in the House by Representative Oscar Callaway, of Comanche, Texas, providing for the establishment of Federal hospitals for the care of indigent consumptives. These hospitals are designed to care for the people from northern and eastern states who flock to the West and Southwest seeking health or a longer lease of life. Many of these people become public charges in a short time after their arrival, and go from city to city seeking work or a free hospital. It is believed that they spread their disease as they move from place to place, and are responsible for an increase of tuberculosis in the native-born population. The Shafroth-Callaway bill contemplates the establishment and maintenance of hospitals under the control of the United States Public Health Service. It provides for the expenditure of $250,000 for the repair and reconstruction of existing buildings and the construction of new buildings on military or other reservations in the Southwest, and $50,000 for maintenance of patients during the first year.

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A field hospital, said to be the first established in connection with the organized militia of any southern state, is to be stationed at Richmond, Va. The hospital will be wholly under canvas, and will be large enough to accommodate 108 patients. It will be equipped with all of the apparatus and appliances usually found in an up-to-date institution. While such a hospital is designed primarily for military purposes, those responsible for this one have had in mind its usefulness in the case of a great civil disaster. It is said that the hospital could be rushed to any point in the state within six hours, at the most, from the time a call is received. Captain Giles B. Cook, Medical Corps, at present attached to the Richmond Grays Battalion, First Infantry, will be in command.

FOREIGN CORRESPONDENCE

PARIS LETTER.

Conditions Prevailing in Paris Hospitals in the Early Part of the Nineteenth Century—Some of the Prominent Physicians of That Time.

Paris, March 12, 1914.

In a recent letter I spoke of how one was impressed by the oldness of these Paris hospitals; how one felt that he was back in a past age when he had entered their gates. And quite naturally I wished that just for once I could go back and walk those wards with some of the men who had helped to build a medical tradition for France. It was, therefore, with a great deal of pleasure that I happened to come upon a book that very nearly did this for me. This book is entitled "Recollections of a Parisian" (Dr. Poumiès de la Siboutie), and is edited by his daughters. Dr. Siboutie entered on the study of medicine in Paris in 1810. At that time the medical course comprised sixteen terms of three months each, two diplomas, five examinations, and one thesis. In those days each professor had his own amphitheater, which was furnished with long, narrow tables for the corpses which were dissected. A "subject" cost twenty francs and had to serve four pupils. In 1811 the doctor became a dresser at the Hospital Saint Louis, and now I will quote from the book his impressions during his medical progress:

"This hospital (Saint Louis) was founded by Henri IV. It was intended for diseases of the skin and scrofula, and was also reserved for the use of girls of a certain class residing on the right bank of the Seine. The latter were a turbulent set, undisciplined and awkward to deal with. Not being confined to bed, they spent their whole time in the passages and grounds—singing, laughing, and dancing among themselves. I have had every opportunity of studying this unhappy section of the community. My respected friend, the late Parent-Duchatelet, wrote an exhaustive treatise concerning them, entitled 'De la Prostitution dans la Ville de Paris.' My special experience of these girls enables me to give an authoritative opinion on the book, and I may say that everything in it is true and founded on careful observation. I spent a year in the hospital with great profit to myself, dissecting, attending lectures on surgery, taking clinical notes, and thus preparing for admission to the post of house physician.

"Alibert was the head physician of the Hopital Saint Louis. He was a pioneer in the study of skin diseases. I knew him well, and enjoyed his intimate friendship for many years. He lectured on cutaneous disorders at Saint Louis, and in fine weather we used to assemble in the grounds and study with him under the trees. Men of science from other countries, passing through Paris, seized their opportunity and attended these lectures with his own numerous pupils. He spoke fluently, with charming inflection of voice. He was enthusiastic over the terrible diseases he studied, and would cry out, in a tone of almost fanatical enjoyment: 'Gentlemen, we will now turn our attention to the whole group of skin diseases, a group composed of genera, species, varieties, each one more engrossing than the last. . . .' After the lesson, consultations took place; there might be forty or fifty individuals of both sexes waiting to exhibit their infirmities. More than

once I have seen Alibert in a frenzy of delight over some peculiarly revolting monstrosity. One day a poor devil afflicted with advanced elephantiasis came before him.

"'Magnificent!' exclaimed Alibert.

"'Can you cure me, sir?'

"'I will have you painted!'

"'But, sir, do tell me whether there is any hope for me.'

"'Certainly, certainly; but I must have you painted.'

"'May I have a bed in the hospital?'

"'If you asked for ten, you should have them all, my good fellow!'

"The greater portion of those terrible examples of deformity and degeneracy which appear in his great book were collected at these consultations.

The old Hospital Pitie.

"In 1812 I was appointed a hospital house physician. It is the post of honor for a student of medicine, and is keenly contested. A hundred and twenty candidates entered to compete for eighteen vacancies. I passed seventeenth, and thought myself lucky to get through at all. The position has great advantages. A house physician sees patients on arrival, reports on their condition, performs or superintends the most important dressings, draws up the notes on any particularly interesting case, and makes the evening round. An enormous amount can be learned. For my own part, I consider that I owe everything that has been of use to me in my subsequent practice to my four years as house physician; besides which the emoluments were not to be despised by us students, who were generally far from affluent. We received 500 francs a year, besides board and lodging when we were on duty. From the moment of my appointment I ceased to be an expense to my parents, who had fallen into needy circumstances. I began to have patients of my own, and took over some surgery practice for a few aged doctors. I thought myself quite rich; I was delighted in the feeling of being self-supporting.

"I was sent to the Hospice de la Salpêtrière. It continues to bear that title in spite of the wish of the Council of Hospitals, which renamed it Hospice de la Vieillesse.

"One of our professors was Capuron, an excellent fellow, known far and wide for his eccentricity. He was tall and lean, and wore, both summer and winter, a shabby, threadbare frock-coat. For fifty years he lived in a lodging in the Rue Saint André-des-Arts, for which he paid 400 francs per annum. Books were his one extravagance; otherwise he had reduced his expenses to the barest minimum. He took his meals in small restaurants in the Quartier Latin in company with the students. He was as economical of his time as of his money; he made the round of the hospital every morning, lunched off a hunch of bread and cheese, attended to his private practice, which brought him in from 25,000 to 30,000 francs a year, and then sat down to his beloved books and studied till far into the night. He was immensely learned; he knew everything, but was so modest that he always pretended to know nothing. He was the butt of his colleagues, clients, and pupils on account of his parsimonious habits and shabby clothes. To all their quips and jests his only reply was a whimsical smile, which never failed to impress me. I felt that something lay behind it. When he died in 1850, at the age of 83, the poor of the city rushed in crowds to his modest lodging. Then the secret which no one had even suspected was unveiled—Capuron had consistently denied himself all but the barest necessities, that he might more freely give in charity. But he had been wise in his administration. He gave food to the hungry, education to the children, of whom he had adopted about thirty. He sent them to school, apprenticed them to a trade, assisted them to set up for themselves, secured patrons for them, and never lost sight of them. About a hundred families owed their all to him, and prospered and lived honestly, thanks to his generosity.

"The chief surgeon of the Salpêtrière was M. Lallement, professeur de la faculté. He was remarkable for his erudition and excessive modesty. He never spoke in a hurry. When there was a general discussion, he would remain silent so long as he felt that the matter in hand was well treated; but if his assistance was needed, he would interpose with a degree of tact, charm, and power that easily dominated his hearers. He was too unassuming to secure among the surgeons of Paris the position that should have been his by right of professional skill. His means were slender. He did not entertain; and he served his meals, not on the table like other people, but in a large drawer. If an inopportune visitor arrived, he took off his napkin, shut the drawer, picked up a book, and was found looking as if nothing was further from his mind than dinner.

"Worthy M. Lallement was terribly afraid of illness. His house physician knew how to play upon his weakness. His hospital round was generally unduly prolonged. If the house physician happened to be in a hurry, he would say to him when he arrived:

"'Dear me, sir, are you unwell this morning?'

"'I? No! Why do you ask?'

"'You do not look at all as I should wish.'

"'I am not feeling ill at present, but perhaps I had better shorten my visit a little'—and the trick was done.

"I attended Cuvier's lectures at the Jardin des Plantes. He was the best organizer I ever met. He never wasted an instant of his time. His carriage was fitted with a lamp, which enabled him to read at night. When he dressed he always had a pupil present who reported the progress of some experiment, or read aloud to him. Later in life he took to politics and public affairs, and soon mastered them. He could discuss administration, jurisprudence, diplomacy, as if he had never done anything else all his life. He was the moving spirit of the Académie des Sciences, and few months passed without his contributing some scientific article to current literature. What

Hospital Saint Louis—Main entrance.

a man he was! what a professor! He could draw animals, the subjects of his lectures, with marvelous skill; a blackboard and a bit of white chalk between his magical fingers were sufficient to insure a life-like picture. He was struck with apoplexy on May 10, 1832, and succumbed on the 13th at the age of 63.

"I also attended Thénard's lectures. He was one of the best professors of chemistry it has ever been my privilege to listen to. He spoke clearly, methodically, and without effort. His lessons seemed all too short.

"On January 1, 1814, I left the Salpêtrière and entered the Pitié. Public affairs were in a serious condition; fighting was going on a few miles from Paris. Napoleon had collected a fresh army with incredible effort. The campaign of Saxony demonstrated what Frenchmen were still

capable of doing; but Napoleon, who was accustomed to wars of invasion, had never turned his attention to the problem of provisioning an army.

"The Hopital de la Pitié was quickly overfilled. The beds were partially stripped, only one mattress being left for each and the remainder were placed on the floor; straw was strewn in the corridors, in the halls, even in the church. The sick lay in long rows side by side; gaps left by death were filled at once. Docteur Lerminier, whose assistant I was, obtained authority to dispatch all who could bear the journey to their own homes.

" 'Now then, my boys,' he said to them, 'hurry up and get well; as soon as you are able you shall go home. Your people are expecting you.'

"The words 'home' and 'people' produced a magical effect. Sunken eyes shone again, dying men pulled themselves together, for many poor fellows were suffering as sorely from homesickness as from typhus. This clever plan saved many lives, and another fortnight saw the greater number cured.

"February of the same year brought me the fulfillment of my long-cherished wish. I was appointed to the Hotel Dieu. This vast hospital is more central, and more convenient for lectures. The teaching is first-rate, the management excellent, and the sick are well nursed and kindly treated. In former times the beds were supposed to accommodate four or five patients each; even in my day two were frequently put in together when the hospital was crowded; now each patient is sure of a bed to himself in every hospital.

"Dupuytren was head of the surgical department, for good old Pelletan's reputation was due to his elegant manners and social tact rather than to his practical ability. Dupuytren, on the contrary, was a surgeon born. He was absorbed by his enormous practice, and had but little time left for research. This has been quoted against him as a reproach; but I may say, without fear of contradiction, that he did not need study. What he did not know he either guessed or invented; however intricate or unusual the difficulties presented, his genius surmounted them instinctively. Pupils came to him from all parts of the world, and crowded about him on his hospital round or at his clinical lectures. He spoke fluently, but so low that the moment he began the usual buzz of the theater ceased and everybody listened intently. He has been accused of fondness for money, but he certainly never weighed possible gain against the welfare of his poorer patients; he was invariably kind to them, used to inquire about their business, their families, give them good advice, and see that they were properly nursed; more than once I have heard of his interesting himself in them after they left the hospital, and giving them his powerful patronage.

"Although Dupuytren could speak with practiced ease and elegance, he hardly ever wrote. A few memoranda are all he contributed to science. His official account of the death of the Duc de Berry may be recalled in this connection. It was a pattern of composition, wording, and lucidity. Dupuytren disliked writing the simplest note; even an invitation to dinner cost him an hour's reflection and a dozen sheets of paper.

"Lebreton attributes his death to his envious and anxious disposition. His constitution was robust, but was undermined by constant worry over imaginary troubles. He was most loved by those who knew him best, for he had many sterling qualities. The voice of calumny did not spare him. For instance, it was said and stated in print that he behaved so violently to his wife, from whom he afterward obtained a legal separation, that he broke her arm; whereas the truth is that he bore himself throughout the whole sorry business with perfect dignity and moderation. He was also accused of being a gambler; I know that he never touched a card.

"Dupuytren at the Hotel Dieu and Boyer at the Charité were the two shining lights of their time in surgery. The ablest surgeons of our day owe everything to their teaching. But, whereas Dupuytren left no writings of any importance, Boyer, who was quite as busy, found time to write a 'Traité de Chirurgie,' which is a standard work, and will remain so for many a year.

"Boyer had come from Uzerche to Paris, a short time before the Revolution of '89, to study medicine and pass his examinations in order to qualify for the position of an officier de santé in his native town. He gradually improved himself into one of the most learned men of his time—professor at the Faculté, member of the Institut, chief surgeon to Napoleon. Although he cultivated his intellect so assiduously, in personal appearance, manners, and accent he remained ever a peasant. Boyer was a Limousin to the end; a man of coarse build, but simple-hearted, kindly, and witty. Napoleon thought more of him than of all the members of the Académie Francaise put together."

R. L. Thompson, M. D.,
Professor of Pathology St. Louis University School of Medicine.

LONDON LETTER.

The New Hospital for Diseases of the Heart—The Evolution of the Special Hospital.

London, March 13, 1914.

When the history of our London hospitals comes to be written, as one day it may, one chapter at least will certainly be devoted to tracing the evolution of what we call the "Special Hospitals," as opposed to those that are "General." Though these special hospitals, when they first began to spring up during the fifties and sixties of last century, were rather frowned on by professional seniors and teachers in the medical schools, they have now very definitely "come to stay," and appointment to the staff of at least one special hospital is eagerly sought by those physicians and surgeons, attached to general hospitals, who yet devote themselves with particular zest to some particular branch of practice.

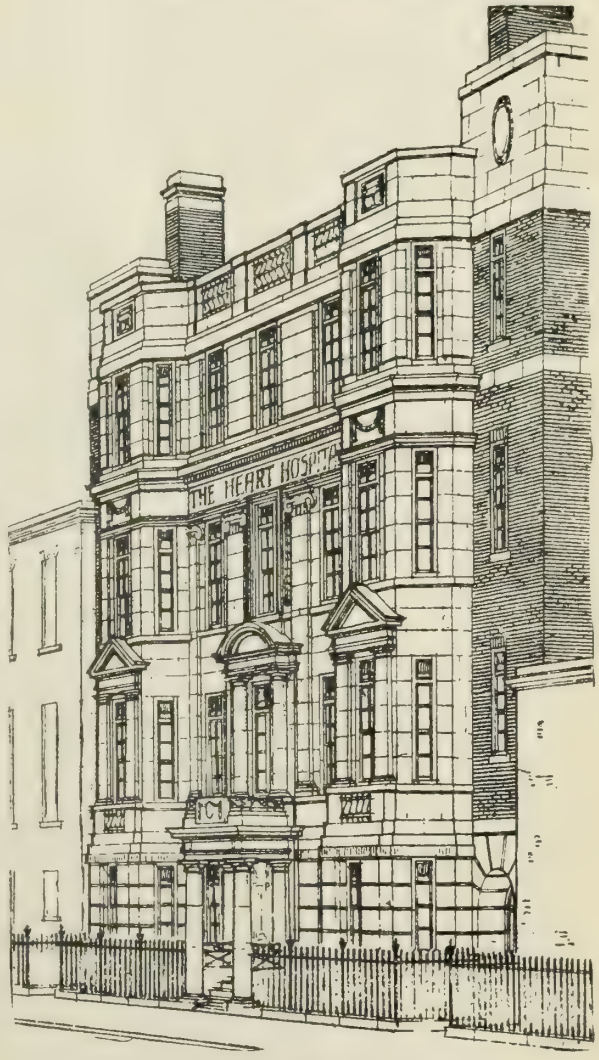


Fig. 1. London Heart Hospital—Front view.

The special hospitals, or many of them, have had in London much to contend with. Not a few had obscure origins. Some man of special ability, maybe—perhaps one who for some reason or another had had official doors closed against him—would, with or without the help of a few friends, open a "dispensary" for the treatment of some special disease in some crowded quarter, possibly with an eye to practice. Patients would be attracted, the charitable would contribute, the dispensary would become a hospital, and the recognition that is always afforded to success, but seldom to merit alone, would then ensue. Those who had stood aloof, or had frowned on the enterprise in

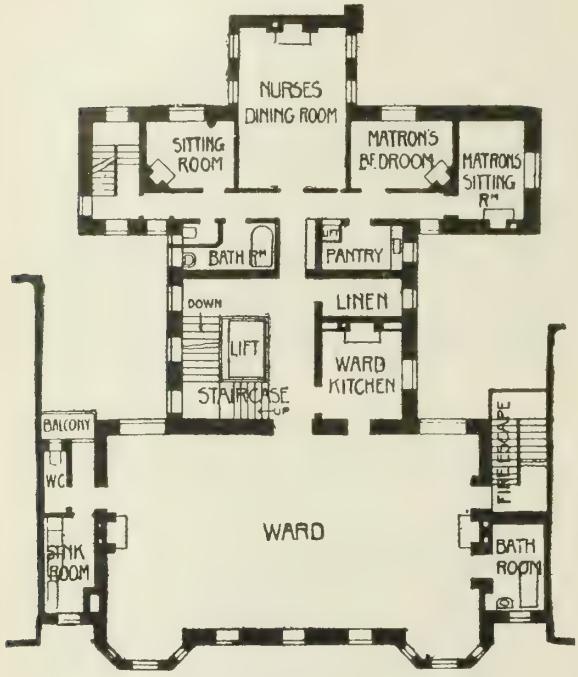


Fig. 2. London Heart Hospital—Plan of ward floor.

days of adversity, would later seek control, and the pioneer work of the founder would be thrust on one side and forgotten by those who, following after, reaped where they had not sown.

Such, indeed, has been the strange, eventful history of more than one of the now famous hospitals of London since an humble ushering into the world, some fifty or sixty years ago, under relatively inauspicious circumstances. I do not say that this has been the history of the institution to which reference is now about to be made, but it is one whose general truth will be freely recognized by those who know something of the past.

As a matter of fact, the National Hospital for Diseases of the Heart, first founded in 1857, came about the year 1873 to occupy a house in Soho Square, famous for many years as the residence of Sir Joseph Banks, and later for its own architectural pretensions, for this house is one of those beautiful and interesting specimens of Georgian architecture, erected under the supervision of the Adams brothers, so plentiful in the century before the last and becoming so deplorably few in this. But, still, this notable old house, although in the past convenient in many respects for the purposes of a special hospital, whereof the in-patient department was relatively small, has for some time failed to satisfy the ambitions and requirements of the active and energetic medical staff, and the governors, therefore, several years ago decided to build a new home for the institution as soon as the finances were sufficient. They then actively prosecuted their plans, first of all procuring an interesting and important site in Westmoreland street, Marylebone. This site is interesting in itself, because it is that formerly occupied by St. James' Chapel, of which the late Rev. H. R. Haweis, so well known on both sides of the Atlantic, was incumbent. Mr. Haweis was once chaplain to the old hospital in Soho Square. Now the new building erected at this place has been completed and on January 12 last it was formally opened by Prince Arthur of Connaught, who was on the occasion graciously accompanied by the princess.

This new building, of which I send you a sketch elevation and two plans, covers an area of some 5,000 square feet, and presents a handsome front of red brick and Portland stone. The basement floor is entirely devoted to the out-patient department, which is very large and popular, and the laboratories. An idea of their general arrangement is perhaps better gathered from the plan than from any verbal description. The ground floor is given over to purposes of administration. From the first floor upward the building is divided into two blocks, of which the anterior contains the wards and their appanages, while the posterior provides for the accommodation of the nursing and domestic staffs. The kitchens are at the very top of all.

The hospital is not large, and the number of beds provided is relatively, to the size of London, very small. But the arrangements have been most carefully planned by the architects, Mr. Goslett and Mr. Adams, and of course the

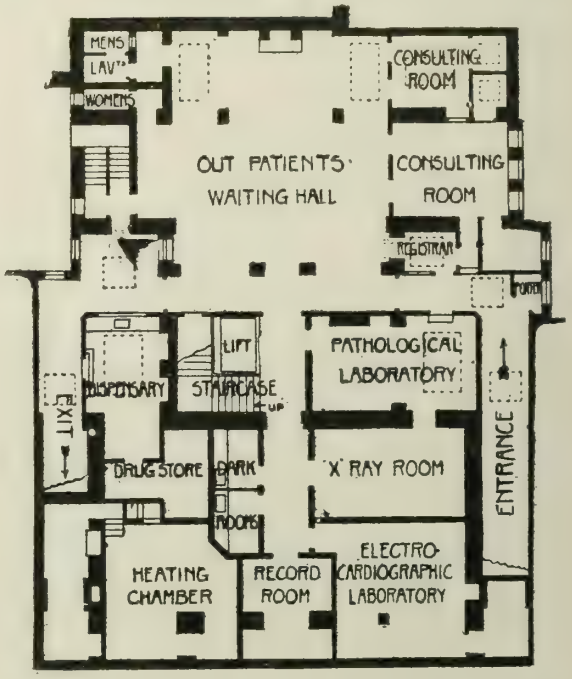


Fig. 3. London Heart Hospital—Plan of out-patient department.

coat has to be cut according to one's cloth. Yet this is the only hospital in London exclusively devoted to the study of diseases of the heart, and the medical staff—among whom are Dr. Gibbes, Dr. Chapman, Dr. Moon, Dr. Russell Wells, Dr. Halls Dally, and others, are resolute that in equipment it shall fulfill all modern requirements for the elucidation of cardiac disorders. To this end not only have a Cambridge string galvanometer, a Bock-Thoma oscillometer, a Siemens apparatus, a Boulitte kynograph, and other appliances been provided, but there is affixed to

the wall by the side of every bed in the wards a neat case fitted with terminals wired to the electro-cardiographic laboratory, so that electro-cardiograms can be taken of every patient without removal from the bed.

The laboratories, other than that devoted to electro-cardiography—the pathological laboratory, the x-ray room, and other departments—are all on the same high level of modernity and efficiency, and the evident determination of the authorities of the hospital that clinical knowledge and experience shall go hand in hand with the advance of physiological and electrical science is further manifested, not only by the generous provision that has been made in material, but in the appointment to the active personnel of Prof. Augustus Waller, who is really the pioneer in the investigation of cardiac phenomena by electrical methods.

There can be no doubt that the National Hospital for Diseases of the Heart now affords great opportunities, of which doubtless the fullest advantage will be taken for the treatment of patients as well as for the advance of scientific knowledge and the prosecution of post-graduate study.

F. G. Crookshank, M. D.,
Physician to the Northwest London and Hampstead General Hospital.

LETTERS TO THE EDITOR

A Correction.

To the Editor of The Modern Hospital:

Regarding our conversation of a few days back in reference to the article published in The Modern Hospital, I inclose a copy of the Bulletin, which will show you that the Chicago Medical Society proposed the building of three hospitals for contagious diseases and not three county hospitals.

Hoping that you will find it convenient to correct the impression given by the above-mentioned editorial, I am, very truly yours,

Charles H. Parkes,
Secretary Chicago Medical Society.

Dr. Grenfell Wants Artificial Limbs.

To the Editor of The Modern Hospital:

Would you kindly ask the readers of The Modern Hospital if they could find for me any unused artificial limbs and orthopedic apparatus, especially walking irons for leg deformities? We are trying to make in Labrador at St. Anthony our own splints as far as we can with our steam-working lathes. I have been able to make quite a number, but we have had to use, as a rule, the joint pieces and tempered steel devices of older apparatus, of which we had quite a collection, but this is now almost reduced to nothing. We do not mind the wood part being broken or the straps having given out. We are unable to make the steel joints and stock catches, and I could use quite a number of these. To purchase them is so costly that the people on whom we have operated have often had to run great risk of relapses and suffer considerable disabilities which are met on this side through the various agencies in connection with the hospitals.

Readers of your journal would do a great kindness if they could help me out in this matter.

Wilfred T. Grenfell.

Iowa's First County Hospital.

To the Editor of The Modern Hospital:

Just to keep history straight, I desire to call your attento a gross error in the issue of The Modern Hospital for March, 1914. In an editorial foot-note to the paper by Dr. James Frederic Clarke, of Fairfield, Iowa, on page 155, you state that the Jefferson County Hospital was the first of its kind in Iowa. This is a gross error, and I am quite sure that Dr. Clarke never made any such claims. The Washington County Hospital, located at Washington, Iowa, holds and is entitled to the honor of the first county hospital in Iowa. The Washington County Hospital was authorized at the general election of November 8, 1910, and was opened for reception of patients on July 16, 1912. The Jefferson County Hospital was authorized at a special election on or about March 26, 1911, and opened for patients on November 2, 1912. Having had some little to do in the securing of the Washington County Hospital, I desire it to have the honor justly due it.

I trust you will give this note the same publicity in an early issue of The Modern Hospital as has been given to the other statement.

C. A. Boice,
Washington, Iowa.

Recipe for a Good School.

To the Editor of The Modern Hospital:

I have not the "pen of a ready writer," nor do I know you will care to give this article space, but I send it in the hope that, if published, it may give encouragement or help and suggestion to some small struggling hospital.

The complaint is frequent in hospitals that it is very difficult to get good material for nurses. The West Side Hospital Association has never experienced this difficulty, and I think "there is a reason." We probably have one of the smallest hospitals in Pennsylvania. Our bed capacity is only 50, but our average daily number is never below 46. When the organization of a training school was discussed, many friends looked doubtful, and suggested direful things in the way, such as, how could we attract a sufficient number of girls, and, if we did, how could we keep them as nurses?

Our training class has now been in existence four years, and it is gratifying to report that the supply has always exceeded the demand. Year after year we find it difficult to make selection of the number we can accommodate from the large number of applicants who are anxious to enter our class and graduate from this hospital. It is proper to say here that the nurses who have graduated and left us are kept reasonably busy all the time. This is substantial evidence that their work is satisfactory both to patients and doctors.

The course is two full years, with three months probation, and remuneration of $6 the first year and $8 the second year.

Two reasons, I think, stand out prominently as to why we meet with less difficulty in securing the proper material for nurses than many hospitals. First, we aim to instil in each nurse a personal interest in the hospital itself, making her feel a pride in the work; a love to do it, and a desire not only to do it better herself each day, but help her fellow-nurses improve. This plan makes nurses talk with their friends about what *they* are doing. A favorable impression goes forth that naturally results in new applicants, and every nurse feels a sort of pride in bringing someone else into the work. Then, we have tried at each graduation to make it a pleasant, attractive, and well-advertised affair. This plan alone brings numbers of requests for admission blanks within a few days. It is not only a graduation at which nurses receive diplomas as evidence of work well done, but an interesting, instructive entertainment in which the nurses feel themselves to have a social part.

During the first year of our training school (1910) the girls became imbued with the idea of furnishing and event-

ually endowing a room for nurses. Our space being limited, we had some difficulty in carrying out the plan. It was, however, finally agreed to furnish and equip the room, and give the hospital the privilege and profit of using it when not occupied by a sick nurse. The "how to obtain the funds" was left entirely to the nurses. They unanimously agreed to give 25 cents per month while in training. Each class was also to raise $100 during its stay in the hospital, and after graduation the girls pledge themselves to return each year and contribute $3, providing they have been successful and in good health. It is three years this month since the plan was adopted, and the following has been accomplished:

Room furnished at a cost of	$252.42
Amount in bank drawing interest	243.68
	$496.10

The money has been earned in different ways—giving lawn socials, dances, etc., each class being anxious to do as well as or better than the preceding one. At each graduating exercise the president notifies the people assembled the amount made during the year by the girls, and always takes particular pains to praise their efforts.

Now, the result is that the nurses are thoroughly in earnest; they feel themselves to be a vital part of the hospital and that they are helping to make it a success financially and otherwise. Perhaps they have a deeper interest—the knowledge that they have a share in a room they can personally occupy and to which they can come back whenever ill. Many patients ask to occupy the nurses' room, and give a liberal donation for its maintenance when leaving.

I think I am correct in saying that ours is the only hospital in the state where the nurses have actually furnished a room during their training, and maintain it for the comfort and use of girls who graduate from this institution, and who make this self-sacrificing and ennobling profession their life work. I firmly believe this "personal interest plan" has worked great good to the hospital, and is making better nurses of the girls. In too many of our institutions the nurses are simply working machines, having no interest and no part in the hospital itself.

Mary Y. Hill,
Superintendent West Side Hospital, Scranton, Pa.

The need of more schools for the training of nurses and a better distribution of them has been recognized by the United States Bureau of Education. According to statistics recently compiled by the bureau, there are 1,094 such schools in the United States, and nearly 80 percent of these are in the small area of the eastern and north central states. The officials assert that, while the education of nurses has long been looked upon as the business of hospitals, it is beginning to be regarded as a matter in which the public is vitally concerned. Furthermore, it is stated that the professional field of nursing is widening and embracing new and important activities, and offering greater incentives to effort. Thirty-four states and the District of Columbia now have laws prescribing examinations and other tests for the "registered nurse." The states that have not yet legislated on the subject are Alabama, Kentucky, Maine, Mississippi, Nevada, Arizona, New Mexico, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Utah, and Vermont. Several of these states have organizations working in behalf of adequate safeguards for nursing, and it is believed that it will be only a short time until all the states will have covered the subject of nurse training.

NEW INSTRUMENTS *and* APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

Indestructible Substitute for the Esmarch Rubber Tourniquet.

Most surgeons have had, at one time or another, the very embarrassing experience of finding their rubber tourniquet deteriorated and unfit for use just when they were called on in an emergency to perform an amputation or other operation that required compression of the blood vessels, which has caused many men to experiment with tourniquets of one form or another to overcome the shortcomings of the rubber bandages. Among other devices a

Fig. 1. Bandage applied preparatory to amputating limb.

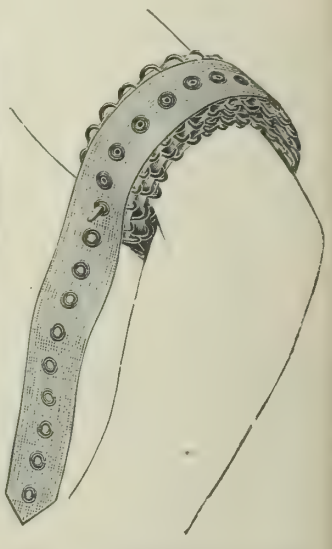


Fig. 2. Bandage applied preparatory to amputating arm, blood transfusion, or injecting salvarsan.

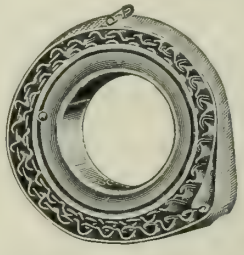


Fig. 3. Bandage coiled ready for sterilizing.

coiled steel spring was and is still used by some operators and, while this is satisfactory as far as elasticity is concerned, it has been found injurious to the nerves on account of its narrow area of contact with the skin.

Prof. E. A. Henly finally designed the spring bandage illustrated here. The device consists of two parts: first, the spring, made of heavily tinned steel piano wire, wound in flat serpentine shape, about 2 inches wide and slightly convex; second, a heavy linen bandage, which is drawn through the winding of the spring. In order to prevent overstretching of the spring, loops are stitched upon the linen band, into which the ends of the spring are inserted. These loops are sufficiently far apart to allow the correct expansion of the spring and yet insure complete contraction when the bandage is removed after the operation. The linen bandage is about 50 cm. longer than the steel spring, and this is first applied next to the skin, thus forming a cushion for the spring, which must always be applied with the convex side next to the body to prevent indentation of the edges of the spring. No bad effects to the nerves have resulted from the application of this bandage when thus properly applied. Aside from their usefulness in amputation, etc., the largest of these bandages is superior to the rubber tube in the Momburg method of hemostasis (Momburgsche Blut Leere) in obstetric cases.

For the purpose of transportation and sterilization the bandage is wound upon a metal drum (Fig. 3) and the end fastened with a safety pin. The bandage can be sterilized by boiling or by high pressure steam, the latter being preferable, and the drum is perforated on the inside to allow the passage of the steam.

The device is made in three sizes—125, 65, and 45 cm. unstretched, allowance being made for stretching 180, 87, and 65 cm., respectively. The bandage has been in use for many months in the hands of surgeons and clinics, and during the late Balkan war was of inestimable service to the surgeons in several of the contending armies.

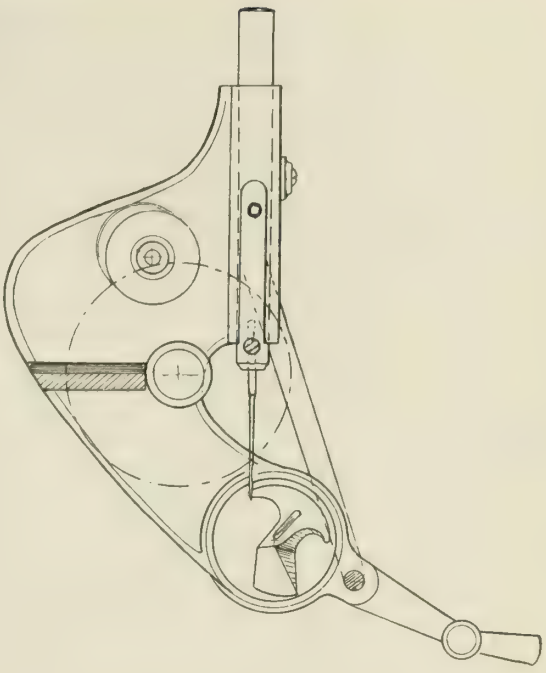


Fig. 2. Sewing machine threaded ready for work.

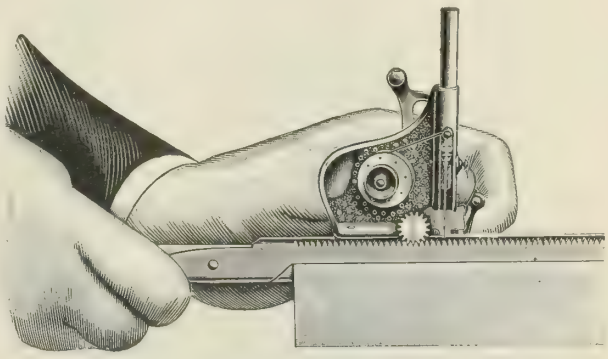


Fig. 3. Sewing machine in action.

Suturing Apparatus for the Stomach and Intestines.

A number of surgeons have endeavored at different times to devise an apparatus which would enable them to save time, as well as increase the safety and asepsis, in the operation of the resection of the stomach and the intestines. Several machines have been devised in Europe in recent years, but they were so complicated and expensive that they have not been considered favorably by the surgeons of this country. At the last International Congress of Medicine in London, however, a new apparatus designed for stomach work was exhibited, which is comparatively simple and its cost is considerably less than the apparatus invented by Dr. Hueltl, which was perhaps the best known stomach suturing machine up to the time Dr. Hahn presented his apparatus to the profession.

This new device consists, in the main, of two parts—the stomach clamp proper (Fig. 1) and the sewing machine (Fig. 2). The clamp is of the Kocher type, with a powerful handle and automatic locking device. A slot 13 cm. long is cut through both branches, and the upper right

Fig. 5. Stitch made by machine.

Fig. 4. Stitched section.

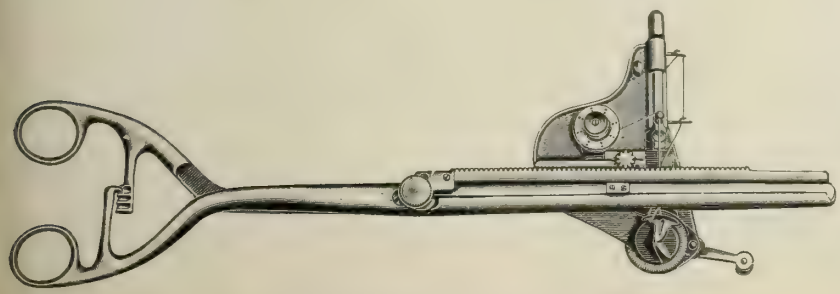


Fig. 1. Stomach clamp, with machine attached.

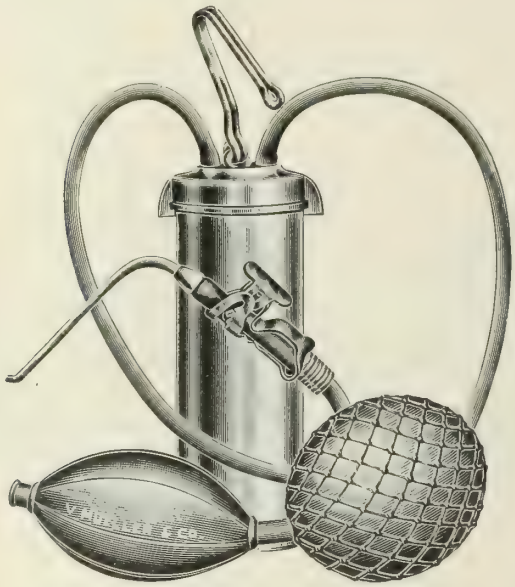
side is elevated on the outer side and supplied with gear teeth. By an ingenious, yet simple, device the sewing machine is held securely on the clamp and propelled forward by the turn of the crank (Fig. 3). Braided Turner Silk

is used with the machine, which is of the chainstitch type.

Figs. 4 and 5 show the stitch made by the sewing machine. The apparatus can be easily taken apart and sterilized by boiling. The advantages of this machine, according to Dr. Hahn, are: 1, considerable shortening of the time of operation; 2, absolutely secure and even suture; 3, complete hemostasis; 4, strictest asepsis on account of the fact that neither the needle nor the suture material comes in contact with the hand of the operator or assistant.

Irrigating Apparatus.

This device was especially designed for irrigating the attic. The apparatus is equally useful, however, for irrigating the antrum, frontal, and sphenoidal sinuses, as the canula may be easily changed. The metal container is filled up to a certain point, the balloon is inflated, and the canula inserted. The stop-cock is then opened and the water (not air) is forced into the attic at whatever pressure desired or cut off instantly. The top of the container



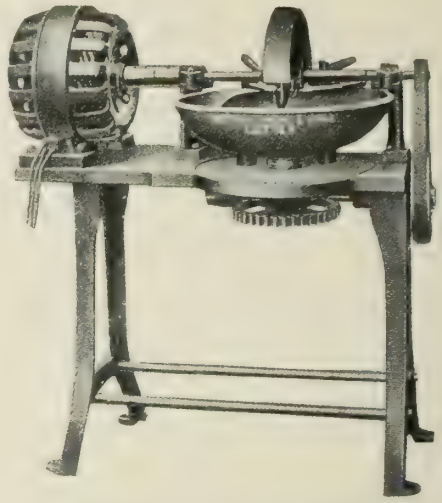
Attic and sinus irrigating apparatus.

is attached with a bayonet slide lock (no thread) which allows the container to be promptly emptied of the fluid after irrigating the accessory sinus and air to be used through the apparatus for drying out the cavities. It will be observed that this outfit is practically a miniature compressed air apparatus.

A New Meat and Vegetable Chopper.

On a recent trip of inspection to a number of well-known hospitals in the East and in Canada we had pointed out to us an apparatus for chopping meats and vegetables, and were informed by a hospital superintendent that this machine really chops (not mashes) raw meats, and therefore preserves all the juices.

The apparatus is put on the market by John E. Smith's Sons Company, of Buffalo, and is made for both hand and motor power. The machine here illustrated is known as a No. 16 outfit, and has a capacity of twelve pounds of raw meat in five minutes and cooked meats or vegetables in two minutes, and consequently the makers claim that this chopper is large enough for an institution that has 500 people to feed. The weight of the outfit is 400 pounds, and the price ranges from $160 up, according to power, etc. The floor space occupied is 36 inches wide by 24



Buffalo meat and vegetable chopper.

inches deep. The apparatus can be easily kept clean, and as a labor-saving device it should be a profitable investment for any institution that has to prepare food for fifty people or more.

A New Diphtheria Culture Tube.

A new culture tube, which seems to be an improvement over those ordinarily furnished by the health board, has been devised by Dr. C. C. Bass for those who have occasion to take throat culture for suspected diphtheria patients. The tube has an outside diameter of 1 cm. and is about 10 cm. long. A swab made of No. 18 copper wire, 12 inches long, is provided. This swab is bent so that it can be placed in the tube above the cotton plug, as shown in the illustration. The proper amount of Loeffler's serum mixture, approximately 5-10 cc., is used to make a slanting surface of about 2 cm. in the tube.

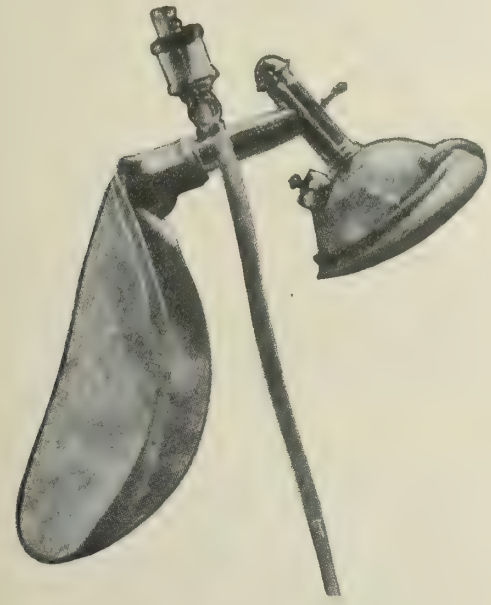
Improved diphtheria culture tube.

The tube is hermetically sealed after the serum mixture, cotton plug, and swab have been inserted, and marked with a file or glass cutter near the junction of the middle and upper third of the length of the cotton plug. When broken, one end is the culture tube complete and the other end contains the swab, which, when straightened out, is ready for use. The Doctor claims for this idea indefinite length of life on account of not drying out or becoming infected, and its smallness makes it easy to carry in the doctor's outfit, and last, but not least, the tube can be produced at a nominal cost.

New Arrangement of Oxid-Oxygen-Ether Apparatus.

Dr. Paluel J. Flagg has recently called attention to a modified nitrous-oxid-ether apparatus which the doctor designed. On account of the absence of complicated mixing chambers, percentage scales, and other acces-

sories, which many of our modern anesthetic outfits possess, it would appear that this apparatus should appeal to the hospital superintendents. The general design of an apparatus of this character is such that the nitrous oxid and oxygen are admitted either separately or together directly into the bag. Dr. Flagg claims an improvement in this respect, since either nitrous oxid or oxygen are first administered directly to the patient. The claim is made that it is not possible in this way for the operator to err as to the percentage which the patient may have had, as might be the case where both nitrous oxid and oxygen are admitted to the bag. In case the patient shows symptoms of coming out or may be coming rapidly cyanosed, in the first condition concentrated nitrous oxid is, of course, necessary, and in the next condition concentrated



Oxid-oxygen apparatus.

oxygen is required. Now, under these circumstances, should the bag be half filled with either the nitrous oxid or oxygen, the patient is, at times, given too high a percentage of the gas, which might not be required. The principle involved to overcome this feature is that the nitrous oxid and oxygen are admitted to the face piece proximal to the mixing chamber. If the gas is admitted during inspiration, the patient receives it in concentrated form; if during expiration, the gas admitted is carried along with the expired air into the rebreathing bag. When the gas is shut off, the rebreathing bag continues as usual.

The apparatus is a modification of the S. S. White inhaler, with a transparent celluloid face piece and a single disk valve.

The doctors of New York are admitted to be very generally efficient and alert, but the Hospital Investigating Committee, of which Mr. George McAneny is chairman, thinks the handling of 162 dispensary patients in an hour and thirty minutes by two doctors is a trifle rapid work. An investigator in the Gouverneur Hospital testified that this was done at that institution; and another investigator testified that thirty-six children were put through the process of examination and treatment in one clinic room at one time. These facts need not surprise any one. The only difference between New York City and elsewhere in this respect is that in New York they are taking cognizance of these conditions with a view to their remedy.

NEW EQUIPMENT

A New Bed Spring.

There are about a hundred bed springs of various kinds on the market, which points conclusively to the fact that neither bed manufacturers nor the users of beds are satisfied with the springs of today.

Hospital administrators will recall many embarrassments which they have felt when private patients have demanded a new mattress or a better spring; they will remember also innumerable bed sores for which they have blamed the nurse. Nurses, on their part, have perhaps had more worry and annoyance because patients were unable to lie comfortably than because of any other fact in connection with their nursing experience. We have devised water beds and air beds, and swinging canvas, and have schemed in a thousand ways to make patients comfortable. But in the devising of a bed spring we have never got past the three varieties—(1) the so-called woven wire, which after a little while sags all out of shape and leaves the patient in a hollow; (2) the link spring, with spirals at head and foot, which likewise sags

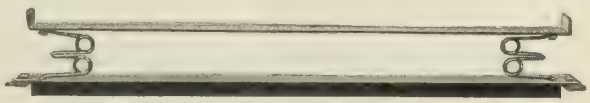


Fig. 1. Naber bed spring.

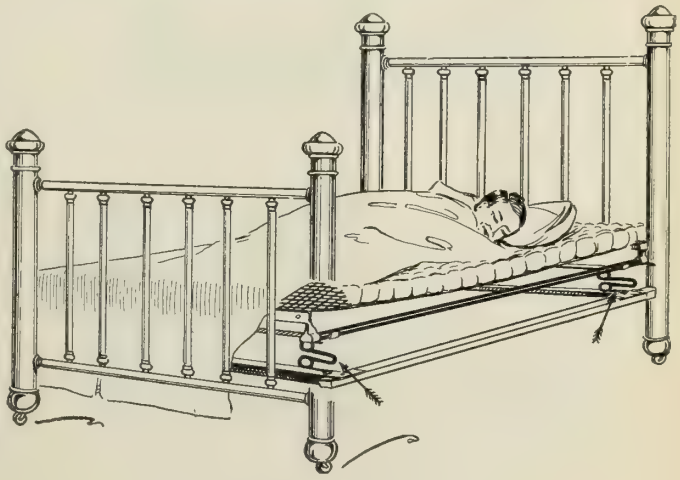


Fig. 2. Naber bed spring adjusted to bed.

in the course of a short time because the spiral springs have been kept under constant tension; (3) the upright spiral rosettes, such as we have in the box spring. But until now no new scientific principle has been advanced.

The accompanying illustration shows a spring that seems a marked and distinct progress, and to have developed a most attractive scientific principle—not essentially a new principle, but a new principle as applied in

bed springs—namely, a double compensating spring. In all the old springs the bony prominences of the body bear directly on some particular point; in this new device there is an added spring effect which distributes the pressure not only over the whole body of the patient, but over the whole spring frame, thereby taking off the local pressure from the bony prominences. A fair illustration of the effect might be advanced by this example: Suppose one were compelled to walk barefoot along a board with nails driven up through it. If the points were sharp enough, the feet would be pierced at every step, but, if one used a pair of crutches with which to walk, a very large part of the weight could be taken off of the feet and distributed to the arm pits and shoulders; instead of the patient's whole weight being borne on one foot as he raised the other, he would have the compensating lift of the crutches, and might walk the board without harm to the feet. That is the principle involved in the spring that Mr. Naber has designed.

A fortunate thing about the Naber spring is that it can be applied in connection with any other bed spring. The Naber spring has now been tested out in a number of places, and a company has been organized to make it for the market. Those who want to know about it can write to the Naber Spring Company, 19 West Lake street, Chicago. It is really worth knowing about.

Simple Form of Window Ventilation.

Hospital architects and administrators are not by any means agreed as to the most perfect method of hospital ventilation. We know very well that there is no method in use today of the so-called "plenum" system that does what is claimed for it by the manufacturers, and hundreds of thousands of dollars are now lying idle in this country in

Fig. 1. Device in place.

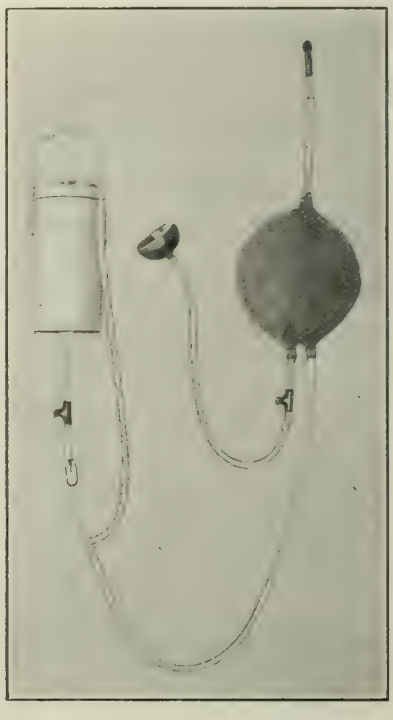
Fig. 2. Darts show the course of the air with device attached.

the shape of unused plenum ventilation installations. It seems that this question of ventilation is to be all threshed out in the near future. The architects are demanding that medical men and scientific sanitarians and hygienists shall settle the problem, and without any question something is to be done about it soon. In the meantime some of us have taken the matter into our own hands, and have devised ephemeral and more or less satisfactory schemes of ventilation.

One of these schemes is presented in the accompanying cuts. Some hospitals are already using this device and are finding it extremely satisfactory. In one hospital that the writer has in mind there are transoms in all the doors on the corridors; there is an exhaust ventilation system in all the serving rooms, slop sink rooms, baths, and toilets, with ducts leading to an exhaust fan at the roof. This window device is placed in all the windows that are used for ventilating purposes in patients' rooms. The patient can sit at the window in which this device is used, with the window up six or eight inches, and the air doesn't blow in directly on him, but is driven to the top of the room by the glass deflector, and with open transoms a constant current of fresh air is kept up. The device consists of two metal side pieces attached to the window with screws. There is a slot in each one of these side pieces into which the plate of glass fits. It is an extremely simple thing, and is giving a great deal of satisfaction. The device was first made by the Pittsburgh Plate Glass Company from a much cruder design in one of the hospitals. It is now sold by that company at a very reasonable price. It is so simple to install that the house carpenter or a good orderly can put it on, and the only measurement required is the length of the glass.

The New-Method Seepage Apparatus—Proctoclysis.

The apparatus shown in the illustration, perfected in 1912 by Dr. George Tuttle, has been in successful operation in leading hospitals of the East for a year and a half. It was the first in which the new method of placing the heating bag near the patient was used, because leading



New Seepage Apparatus.

surgeons complained that in previous machines, although the saline was hot in the irrigator, it was much too cold when it reached the patient.

An admirable feature of the machine is the absence of glass connections (with the necessary exception of a glass indicator), which break so easily against iron bedsteads, and it is not necessary to remove the rectal tip every

time the heating bag is filled. In addition, the fact of the heating bag being of rubber, instead of hard metal, makes it much more comfortable for the patient, and it can be easily covered with a blanket to prevent burning. The irrigator can is of copper, painted with aluminum enamel, and the heater bag, being made of pure gum rubber, with cloth inserted, is durable. The best grade of white tubing is used throughout.

At any time, while this machine is in operation, the nurse or doctor can determine by a single glance at the indicator, the number of drops coming from the irrigator per minute, and whether the patient is absorbing.

The new method of giving salt solutions, which has developed during the last year, makes it imperative for hospitals to give up the old ideas of keeping the saline hot by means of thermos bottles, electric lights in the reservoirs, etc., and to devote their time to considering the modern machines which are now on the market.

Guarantee of Sterilization.

There is always a lingering suspicion in the mind of the surgeon, when he begins to operate, that the contents of his laparotomy drum may not have been efficiently sterilized, and that, in spite of all the precautions he may otherwise take, he may get an infection. The surgeon cannot control this matter; he is absolutely at the mercy of the nurse or the orderly who attended to the sterilization of the drums, and even if the person who did the work has been entirely conscientious and careful about it, there is no steam pressure gauge sufficiently reliable, at all times, so that one may feel entirely safe about the steam pressure in the chamber of the sterilizer.

That a vast number of infections have occurred, due to faulty sterilization of the contents of snugly packed drums, there can be no doubt. While we are thinking about hospital efficiency in every direction, and especially in those things that appertain to the integrity of apparatus and instruments on whose proper work or design a surgeon must rely for the success of his work, we should certainly take into account the hazards of faulty sterilization.

For a long time we had no protection against mishaps of this sort, but not long ago Dr. A. W. Diack, of Detroit, designed a chemical tablet which he confines in a sealed glass tube, and which he has reduced to so sensitive a temperature point that the tablet melts when the sterilization is complete, according to the scientific researches regarding the death point of the various pathogenic or harmful microorganisms and spores.

Dr. Diack's device is a distinct contribution to modern surgery, and as a safeguard it should be used in every laparotomy drum. It is widely used now, and by many of the best surgeons its use is insisted upon. The method of use is as follows: One of the sealed tubes is placed in the middle of the pack. When the temperature at that point rises to fifteen pounds pressure, or 250° F., the chemical tablet in the tube begins to melt, but the bacteria are not destroyed at this point, and the temperature must be maintained for a certain length of time. So it is with Dr. Diack's tablet. It begins to melt at 250 degrees, but it melts slowly and the whole tablet is not melted until the temperature has been maintained for thirty minutes, which means, according to laboratory tests, that all the bacteria have been destroyed. When the drum is opened for a surgical operation, the first thing is to fish out the tube; if the tablet is not melted, it may be safely depended upon that the heat in the middle of the package has not been sufficiently high or sufficiently long sustained to completely sterilize the contents.

Many tests have been made with this little device, and some amusing incidents have occurred in the course of its development as a regular part of sterilization technic. Many hospital superintendents, sure of the integrity of their sterilization, have written to Dr. Diack, complaining that his tablets were incorrect and that they did not melt in the course of the sterilization.

In a little book, just issued, aptly entitled "A Detective Story," Dr. Diack shows some of these incidents by quoting a series of letters from superintendents. The first letter has usually been a complaint that Dr. Diack's tablets have failed to work. Then evidently there was a letter from Dr. Diack to the superintendent, insisting that the sterilization was insufficient. Then comes along another letter from the superintendent, saying that further tests would be made. A little later comes a third communication from the superintendent, notifying Dr. Diack that the "leak" has been found and that now the tablets melt.

This matter of the integrity of sterilization of drum contents is a very serious one, and hospital superintendents had better think about it. What avails it if a surgeon has taken every precaution at his control to guarantee his asepsis, if that one feature—namely, the sterilization of his dressings and sponges, over which he has no control—has been inadequate.

SOCIAL SERVICE AT GRACE HOSPITAL.

Only One Year Old, This Department Has Relieved Many Hundreds of Helpless People—New Departments Are Opened.

Grace Hospital, Detroit, began its social service work just a year ago. In the annual report for the year, advance sheets of which have been placed at the disposal of THE MODERN HOSPITAL, the illuminating story of this social service is told. It is worth reading and the efforts chronicled are worth emulating:

SOCIAL SERVICE AT GRACE HOSPITAL.

The work started march 21, 1913. The following statistics cover the work carried out from its inception, March 21, 1913, to December 31, 1913:

652 visits were made to the homes of patients who attended the clinic, and also to city, county, and charity patients discharged from the hospital.
12 cases were reported to the Jewish Charities.
31 cases were reported to the Associated Charities.
21 cases were reported to the Baby Milk Fund Society.
13 cases were reported to the Visiting Nurse Association.
5 cases were reported to the Tuberculosis Society.
1 case was reported to the Juvenile Court.
6 cases were reported to the St. Vincent de Paul Society.
10 cases were reported to the Board of Health.
2 patients without homes were sent to Eloise.
3 patients were reported to the Society for the Prevention of Cruelty to Children.
3 children were placed with the Michigan Children's Home-Finding Society, to be cared for while the mother found work in the hospital, the father having deserted the family.
15 for whom work was found.
33 women and children were sent for summer outings through the kindness of the Associated Charities, the Michigan Fresh Air Society, and the Free Press Camp.
59 patients were refused free clinic care and sent to private physicians, it having been found that their circumstances enabled them to pay for medical care.

Grace Hospital has built and opened two new departments during the year—a convalescent and maternity branch hospital at 283 West Grand Boulevard for 40 patients, and a $45,000 home for the employees. The convalescent and maternity hospital was the gift of Mr. and Mrs. H. M. and W. C. Leland.

DEPARTMENT of NURSING

Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Newton, Mass.

Nursing in Infancy and Childhood—Feeding of the Normal Baby—Comparisons of Milk—Preparation of Milk Modifications.

BY HENRY F. KEEVER, M. D.,

Assistant in Pediatrics Harvard Medical School; Junior Assistant Physician Children's Hospital, Boston; Assistant Physician Newton Hospital, Newton Lower Falls, Mass.

The best food for an infant during the first seven or eight months of its life is breast milk. There is no substitute which can be compared to it. It has never seemed quite fair to a baby to say that breast milk will not agree with it, or that it cannot nurse, until the mother's milk has been given a thorough trial. Even a very little breast milk is often of service in enabling the infant to assimilate its bottle feedings to better advantage. If breast milk is not available, then some modification of cow's milk must be used, and the formula is usually prepared by the nurse or the mother.

The milk from Jersey and Gurnsey cows is not adapted to infant feeding. It is too rich in fat, and contains certain elements in the fats which are not easily assimilated by the infant. The milk from Holstein and Ayrshire cows is best adapted for infants. The milk of a carefully selected herd is better than the milk from one cow; the reason for this is that if the one cow is sick, the milk is affected more intensely than if that milk were mixed with the milk of a herd.

In order to understand why we must dilute cow's milk before feeding it to infants, we must compare the relative constituents of human milk and cow's milk. Milk is made up of fats, sugar, proteid, water, and salts. For our purpose we can disregard the last two elements and compare the first three—fats, sugar, and proteid. Human milk contains 4 percent fat, 7 percent sugar, and 1.50 percent of proteid. Cow's milk contains 4 percent fat, 4.50 percent sugar, and 3.20 percent proteid. Comparing these, element for element, we find that the percentage of fat is the same. The fats in cow's milk are, however, more volatile than in human milk, and therefore less easily assimilated. Human milk contains 2.50 percent more sugar (lactose) than cow's milk. The greatest difference is in the proteid, and here we find a marked quantitative and qualitative difference. Human milk contains 1.50 percent proteid; cow's milk, 3.20 percent proteid. This quantitative difference is still further marked by the fact that human proteid consists of ⅓ casein and ⅔ whey, while cow's proteid consists of ¾ casein and ¼ whey. As the whey is the easily digested part of the proteid, it is readily seen that the proteid content of human milk is far more easily assimilated than the proteid of cow's milk.

The usual milk modification is made of cream, skim milk, water, or barley water as a diluent and milk sugar. Creams vary according to the percentage of fat they contain. Gravity cream—that is, the top of the bottle to the cream line, usually the top six ounces in a quart bottle—contains 16 percent fat. Centrifugal cream contains 32 percent fat. It is important for the nurse to know the percentage of cream to be used, and this is usually stated by the doctor. There are three methods of obtaining cream:

1. Pouring off the top 4, 6, or 8 ounces.
2. Dipping.
3. Siphonage.

Of these three, probably the latter is the more accurate, though the first is the simplest. It is well to remember that after a quart of milk has stood four hours, the top 4 ounces contain 20 percent fat; the top 6 ounces, 16 percent fat; the top 8 ounces, 12 percent fat; and the top 11 ounces, 10 percent fat.

In the preparation of the formula, the water should be boiled and cooled before adding to the milk. If boiling water is added to milk, it scalds it and ultimately tends to produce scorbutus.

The milk sugar should be put in solution in about 2 ounces of boiling water, as it is much more soluble in hot water. After the formula has been prepared, it should be placed in the separate feeding bottles, stoppered with cotton plugs, and put on ice. The nipples should be kept in a saturated solution of boric acid and boiled once a day.

One of the most commonly used diluents in the preparation of formulas is barley water. It is made as follows: 1 ounce barley flour to 1 quart of water. Boil twenty minutes in a double boiler, strain, add enough water to make a quart. This makes a 1.50 percent solution. The advantages of barley water are:

1. It helps to break up the casein curds in the stomach.
2. It adds to the food value of the mixture. Babies ordinarily do not possess the ability to digest starch until the fifth or sixth month.

Whey is one of the most easily digested milk products, and often is assimilated easily when other foods cannot be tolerated. Its food value is relatively low, containing no fat, 5 percent sugar and .9 percent of proteid. It is made as follows:

Add 4 teaspoons liquid rennet (essence of pepsin) to 1 quart skim milk; heat to 105° F.; let stand until the curd forms; break up the curd with a fork and strain several times through a napkin; heat to 155° F. to destroy the enzymes. If this is not done, and cream is added to the whey, the cream will curdle. One quart of skim milk will make about 24 ounces of whey.

Lime water is added to milk modifications to delay stomach digestion, causing most of the food to be digested in the intestines. In certain cases, rendering the stomach reaction alkaline lessens the vomiting, gas, and colic.

In those cases where it is considered desirable to pasteurize the milk, it may be done as follows: heat to 140° F.; hold at this temperature for twenty minutes; place on ice. Pasteurization at this temperature kills the pathogenic bacteria, but does not destroy the enzymes, which are needed for digestion.

If it is desired to sterilize the milk, it may be done by bringing it to the boiling point, 212° F., and holding there for five minutes. This process kills certain enzymes which are essential for complete assimilation.

The most common sources of error in making up milk formulas are the following:

1. Contaminated milk. This is especially dangerous in hot weather. All milk for infant feeding should come from tuberculin-tested cows in inspected dairies. Absolute cleanliness in respect to hands, utensils, bottles, etc., must be observed in handling the milk.

2. Errors in the fat percentage of cream. One must be sure that the percentage of fat in the cream used is the one that is required. A common error is the belief that the richer the cream the better for the baby.

3. Errors in the fat percentage of milk. All the foregoing figures are based on a 4 percent fat in whole milk.

Rapid Increase in Pupil Nurses.

Much has been said about the diminishing number of applicants for admission to training schools and the shortage of material. Various reasons have been offered, such as that fewer women were applying for admission to the training schools because of the lengthening of the course of instruction, the raising of standards of admission, more attractive opportunities in other fields of work, etc.

A study of the following table will furnish one with a satisfactory answer to many of the questions which have been raised. It shows, first, a very remarkable growth in the development of training schools for nurses; it shows, furthermore, that the number of women seeking admission to training schools for nurses has increased steadily year by year, and that the number of nurse pupils registered for 1912–1913 was much more than double; in fact, almost treble the number of 1902–1903:

COMPARATIVE STATISTICS OF SCHOOLS FOR THE TRAINING OF PROFESSIONAL NURSES, 1879-1913.

Years.	Schools.	Nurse pupils.	Graduates.
1879	11	298	141
1880	15	323	157
1881	17	414	133
1882–1883	22	475	124
1883–1884	33	579	221
1884–1885	34	793	218
1885–1886	29	837	349
1886–1887	31	989	335
1887–1888	33	1093	421
1888–1889	33	1248	431
1889–1890	35	1552	471
1890–1891	34	1613	527
1891–1892	36	1862	582
1892–1893	47	2338	786
1893–1894	66	2710	970
1894–1895	131	3985	1498
1895–1896	177	5094	1773
1896–1897	298	7263	2498
1897–1898	377	8805	3027
1898–1899	393	10018	3132
1899–1900	432	11164	3456
1900–1901	448	11599	3710
1901–1902	545	13252	4015
1902–1903	552	13779	4206
1903–1904	724	17713	5333
1904–1905	862	19824	5795
1905–1906	974	21052	6400
1906–1907	1023	21119	6759
1907–1908	1026	26457	6759
1908–1909	1096	29320	7017
1909–1910	1129	32636	8140
1910–1911	1121	29805	7720
1911–1912	1057	32389	8062
1912–1913	1094	34417	8937

Number of graduates since 1878, 104,103. Estimating for an annual death rate of 10 per 1,000, the number of graduate nurses living in 1913 was approximately 95,600.

The above table of comparative statistics was furnished by the commissioner of education of the Department of the Interior (chapter 5, volume II, Report of Commissioner of Education for year ending June 30, 1912).—Winford Smith.

International Congress of Nurses—Abbreviated Description of the Possibilities for Those Who Attend the Panama-Pacific Exposition.

A congress of over 6,000 of the most representative nurses of all nations of the world will meet in San Francisco on the grounds of the Panama-Pacific International Exposition in June, 1915, and will spend one week in consideration of the problems of their profession, using the exhaustive exhibits touching on their work to be found in the departments of Education and Social Economy and in the Palace of Varied Arts as working laboratories. As these exhibits will be the most inclusive and significant along their particular lines ever assembled, and as this congress will be the largest and most representative gathering of nurses the world ever held, it will doubtless have the greatest results in promoting the alleviation of human suffering.

The congress will consist of the joint conventions of four great associations of nurses—the International Council of Nurses, in which fifteen nations are represented, including England, Ireland, Germany, France, Belgium, Italy, Australia, China, Cuba, and others; the American Nurses' Association, with a membership of 22,000 nurses; the National League for Nurse Education, and the National Organization of Public Health Nurses. To these four organizations the California State Nurses' Association will act as host. Over 6,000 accredited delegates from these various bodies are expected to attend the convention, which will open May 31 and close June 5.

Space has already been allotted in the Department of Education and Palace of Varied Arts for exhibits by nurses and nursing associations, and these will consist of hospital appliances, conveniences, and improvements; methods of keeping records for the inspection of superintendents of hospitals and head nurses; registration laws and methods of procedure under them; statistical surveys of public health and hygiene; reports of recent legislation in promotion of public health and their results, with formal recommendations for further legislation; exhibits of literature contributed by nurses, such as histories of nursing, scientific treatises, and biographies of famous nurses.

Prizes have been offered for the best inventions by nurses exhibited at the exposition. The contest will be in connection with the convention, and may be entered by any nurse of any of the fifteen nations represented in the International Council of Nurses. An invention of any hospital appliance, or mechanism for the simplification of procedure in nursing, or the increase of the comfort of patients, may be entered so long as the inventor is a nurse. Miss Genevieve Cooke, president of the American Nurses' Association, has announced that Miss Jane A. Delano, prominent in both the national and international organizations, has offered a first prize of $100 and a second prize of $50 for such inventions, and the amounts of these prizes will doubtless be greatly increased later from other sources.

But the interest of the delegates to the congress will by no means be confined to exhibits by nurses, for the Exposition will furnish much of instruction and interest in the line of appliances for medical and surgical procedure as well as illustrations of their use.

Public health nurses may study with profit the exhibitions of tuberculosis prevention stations, social settlements, and the like, which will center in the exhibits of the departments of Education and Social Economy housed in the Palace of Education, where the exhibits, for the greater part, will be living exhibits, showing actual methods of procedure wherever possible.

The emergency hospital situated on the exposition grounds will, under the direction of Dr. R. N. Woodward, of the United States Marine Medical Service, be conduted as a model hospital, with demonstration wards in operation throughout the entire period that the exposition is to remain open.

The program of the convention will not, however, consist entirely of the study of professional problems. Two great pleasure outings by the convention in a body are planned; the first to begin with a great educational meeting in the famous Greek Theater on the campus of the University of California at Berkeley, at which the faculties of this university and that of Stanford University will be present, and at which several of the foremost women of the profession will deliver addresses.

All the undergraduate nurses in hospitals in the counties surrounding the Bay of San Francisco will be specially invited to attend this meeting, and there will probably be in all over 12,000 nurses present. A feature of the program will be the presentation of contributions by the nurses toward the fund for the establishment in London of a Nightingale Educational Memorial, in honor of Florence Nightingale, similar to the one now existing in this country, which is known as the Isabel Hampton Robb Memorial.

After the adjournment of the outdoor meeting, a trip by chartered boats about the most beautiful points of the bay will be made, terminating at nightfall opposite the Exposition grounds, where, after witnessing the wonderful illumination effects from the water front, the nurses will disembark at the exposition ferry slip.

Another excursion through the famous giant redwoods of Muir Woods and to the top of beautiful Mount Tamalpais is planned for the last day of the convention.

The great main hall of the new Auditorium at the Civic Center of San Francisco, seating over 10,000, will be placed at the disposal of the convention for general meetings of the Nurses' Congress.

Another feature of the program will probably be the arrangement for separate meetings during the week of each of the various state organizations of nurses represented in the general assembly, that preparations for urging matters of local interest at the general congress may be made.

The "1915" Committee of Arrangements is to meet again April 18 of this year (1914) to complete further details of the program for announcement at the joint annual convention of the three American national organizations at St. Louis, April 23 to 29, inclusive.

Among the women who are interested in preparing the program for the 1915 convention, and who will attend, are: Mrs. Bedford Fenwick, of London, founder and honorary president of the International Council of Nurses; Miss Annie W. Goodrich, of New York, assistant professor in the Department of Nursing and Health, Teachers' College, Columbia University, and president of the International Council of Nurses; Miss Genevieve Cooke, of San Francisco, president of the American Nurses' Association; Miss Jane A. Delano, chairman of Red Cross Nursing Service, who has offered prizes for nurses' inventions; Miss Clara D. Noyes, president of the National Organization for Nurse Education; Dr. Helen Parker Criswell, chairman of the Committee of Arrangements; Miss Mary M. Riddle, editor of the Nursing Department in THE MODERN HOSPITAL and superintendent of the Newton General Hospital, Massachusetts; Miss L. L. Dock, honorary secretary of the International Council of Nurses; Miss E. P. Crandell, executive secretary of the National Organization of Public Health Nurses; Miss S. F. Palmer, editor of the *American Journal of Nursing;* and Miss M. A. Nutting, professor of the Department of Nursing and Health, Teachers' College, Columbia University, and chairman of the Nightingale Educational Memorial Fund in America.

California Law Regulating Hours for Nurses.

The passage of an eight-hour law for nurses in training in California has recently been effected. It is said to have been introduced into the Legislature by the Bureau of Labor Statistics ostensibly on account of demands made by the "people" that student nurses should have the same privileges and "protection" as laundresses, saleswomen, and workers in manufacturing establishments.

The question may be asked, Why stop at "student nurses?" Why not extend the legislation to the protection of graduate nurses and others caring for the sick in their homes—where the nurse is on duty from eighteen to twenty-four hours at a time. The so-called "people" are apparently not interested in this side of the question, or, if interested at all, is it not a fair deduction that such a law might affect them materially and is therefore considered by them to be unnecessary.

To the interested observer evidences point to the necessity for her protection from the patient, who must get the most for his money; from the family, which has no regard for her welfare; and from the nurse herself, who sometimes overestimates her strength and allows her zeal to dominate her judgment.

All nurses may need protection along these lines, but it is a backward step to secure it by legislation. In the first place, nurses should refuse to be legislated for by any "labor organization." To accept it offsets the teachings of years by the hardest worked class of the whole nursing body, all of whom were subject to the longer hours and more strenuous days of the earlier years, and almost all of whom hope to reduce the number of hours spent by their student bodies in active ward duty. They do not, however, hope to make gains along these lines by legislation, but by the education of boards of management to the expediency of such a course—expedient because the school whose management is mindful of such requirements is apt to attract the best class of students; because by keeping the student nurse in condition for brisk physical and clear mental activity, the needs of the sick are better secured; and because the nurse requires the additional time for study as well as recreation if she is to maintain an equality with those already having the advantage, and if she is to meet the demands made upon her by the registration laws of the various states and those associations for the promotion of her profession.

Moreover, the hardships of such a law are felt first by the sick in the hospitals. Naturally many of them must be cut off from the nursing care which is theirs by right, and, again, it seems hard and indeed a travesty on personal liberty in our free country to hold an institution and a nurse liable under the law for offering aid and succor to the individual inconsiderate enough to be attacked by appendicitis and require an operation "after hours." No doubt the time will come when the hospitals can adjust themselves to the new order of things, but the time will never come when the professional woman shall cease to feel the stigma of legislation secured through the efforts of any bureau of labor, however well intended such efforts may have been.

Latest information is to the effect that the law is being contested in the federal courts. Nurses in California may, therefore, hope that eventually they may be saved from

their 'friends," the petitioners in their behalf. In contemplation of this new law, the nurses in some of the older and more conservative states should not be wholly ungrateful that legislation is often somewhat hard to secure.

Dr. S. Weir Mitchell, who understood nurses and nursing conditions in this country better than almost any one else, once, in speaking to a body of nurses, admonished them for their too frequent unwillingness to serve anywhere and everywhere, with or without pay, saying that never until nurses are willing to make some of the sacrifice a doctor is constantly called on to make—sacrifice of time and money in preparation and sacrifice of time, money, and ease in practice—have they a right to call this new vocation a profession.

If Dr. Mitchell was right, it is today correct to say that the enactment of a law, under conditions and for reasons such as those attendant on the passage of the recent one in California, removes nursing from the column of the professions and places it in that of the trades.

Report of Children's Bureau at Washington.

On account of the close relationship existing between the work of nurses and any effort which is for the welfare of children, and because the members of the great nursing organizations with the Society for the Prevention of Infant Mortality, every member of the nursing profession should be interested in reading the report of Miss Julia C. Lathrop, chief of the Children's Bureau at Washington.

She has just issued her first annual report, and, while she has not attempted to cover the whole field, she has succeeded in making such investigations and reports as to cause even those who have but a passing interest to stop and ponder.

The object of the work is to study the child problem from every standpoint in order that the lives of young children may be preserved for future possibilities of good. The report states that 300,000 children less than one year of age lost their lives largely through the inefficiency and ignorance of those who were responsible for them. This number represents nearly 1 percent of the children under sixteen years of age in our country.

The figures are startling, and add an incentive to the perhaps indefinite one the nurse already has to ally herself and her services with the Society for the Prevention of Infant Mortality, the Babies' Welfare Workers, and kindred groups, all of which have the preservation and promotion of child life as their objects.

Nurses Honored in Massachusetts.

It was a most impressive scene enacted in the Hall of Flags at the State House, Boston, on February 19, when the memorial to the army nurses, 1861 to 1865, was dedicated. There were present many state officials, delegates from patriotic organizations, and interested citizens, surrounded by flags—flags everywhere. The statue, consisting of two bronze figures on a pedestal, was presented by the Army Nurses' Memorial Association and was turned over by them to the Daughters of Veterans and given to the state.

Governor Walsh made the unveiling remarks, in which he paid a glowing tribute to the nurses of the Civil War, saying in part: "To fight and die for one's country is noble and heroic, but to live and work in the wake of the battle's wreck is the highest form of sacrifice, the noblest test of patriotism, since to it come none of the emotions and glory of conflict, neither the blare of trumpets nor the roar of the drum, and since it is done amid the silence and pathos of the hospital, where few come save the beaten and bereaved."

Ex-Governor Guild delivered the oration, which was most stirring, closing with the words: "Cheerfully, gratefully, reverently, do we recall today these memories of yesterday, and base upon them our best hopes for tomorrow, that in the dangerous days to come, whether in peace or in war, American sisters and daughters and mothers and wives, American brothers and sons and fathers and husbands, differing in duty, but united in devotion, may lift up their hearts together in the joy of self-immolation, that greater happiness may come to all humanity."

Five of the seven surviving nurses who went to the front from Massachusetts were present, and it is to be hoped that in contemplation of their past and in anticipation of their future they enjoyed the peace which passeth understanding.

Fresh Air Far North.

Notwithstanding Dr. Grenfell's Labrador hospitals and his Esquimo patients would seem to be quite near enough to the north pole to guarantee plenty of fresh air, if not sunshine, the little girl in the picture is an out-of-doors tuberculosis sufferer—or was. A letter recently received by the Grenfell Association of America from Dr. A. W. Wakefield, in charge of the hospital at Battle Harbor, and published in the association's little magazine, "The Deep

Outdoors in Esquimo land.

Sea Fishers," gives the following interesting account of the case of the little Esquimo girl:

"Another case was that of a little girl, about 4 years old, with a big tuberculous abscess of the side. She was always cheerful and plucky, and loved being outside on the balcony in the sunshine and fresh air. And in this way she set a most admirable example to many of the others who found it hard to sacrifice their beliefs that a hot, stuffy room was the right place for an invalid, and that the cold, clean, fresh air would be 'sure to give them colds.' At 5 o'clock in the morning she would sometimes, even though it was cold and cheerless outside, be clamoring to be taken out on the balcony. I am thankful to say she very quickly got well."

The Battle Creek (Mich.) Sanitarium records the treatment of 5,600 persons during the year 1913.

During the month of December the Howard Hospital at Philadelphia sheltered and cared for 300 accident cases. There were 3,767 prescriptions put up. The new dispensary patients numbered 678, and 109 patients were received into the hospital.

QUERIES *and* ANSWERS

They Want a Small Hospital.

To the Editor of THE MODERN HOSPITAL:

I have been striving for some time to get the citizens of this little town of 2,500 to build a suitable hospital. They appear to be willing, but there seems to be a great difference of opinion as to what a small modern hospital to cost, say, $25,000 or $30,000, should include. Could you write some discussion on this subject?

NOEL E. GRAVES, C. E., Yreka, Cal.

Assuming that your town of 2,500 people is an average American community, with the usual activities of a town of that size, and not taking into account any special industries, such as mining or milling, or railroad shops, your $25,000 or $30,000 should build for you an adequate hospital. It is conceded that under the most liberal provisions there should be a hospital bed for every 150 of the population. In a new community, and especially a community unaccustomed to a hospital atmosphere, not nearly so many beds will be needed.

I should think that if you built a hospital intended ultimately for, say, 25 beds, and with sufficient administrative space—that is, kitchens, dining rooms, store rooms, offices, reception rooms, a laboratory of pathology, hydrotherapeutic space, and operating rooms—to care for that number, and then accommodations for, say, 10 or 12 patients, you would be meeting your problem in an efficient manner.

Such a hospital as this should be built with the most flexible arrangements for patients. I would have, say, two good-sized private rooms and, say, three still larger rooms that could accommodate three beds each if necessary. In such a hospital the cases are likely to run in certain directions at certain times. You may have an accident sometime that will bring you several surgical cases; then, again, some endemic fever may come along and fill you up with medical cases all down with the same disease. If you happened to have a doctor on your staff who was a good obstetrician, he might build up a nice maternity service, and so with any good specialist. There are communities, even in this country, where people are going through the best part of their lives blind, with curable cataract, just because there is not a good eye specialist there who is watching the health and happiness of the people.

So you see your hospital is likely to develop in any one direction where there is a good man on the job. A hospital such as your people are thinking about should be prepared, architecturally, for such expansion. After a few years things will have settled down, so you can see into the future and you can add new wings of the right sort.

In planning, you had better figure on a good fire-proof, two-story building, and you can figure on a cost of about $2,000 per bed, with about $300 per bed added for equipment and furnishing complete. Your $30,000 will build and equip for you a hospital that will care for 12 patients very comfortably and 15 or even 20 under a little good management.

I think it requires more judgment and study to plan a small hospital like this, to get the most possible out of your space and for economy of administration, than it does for a big hospital; so, when you come to the plans, get them made by an expert hospital administrator. A competent architect will like that way of approaching the problem, because the job, when completed, will bring him a lot more credit.

JOHN A. HORNSBY.

Vacation for Employees.

To the Editor of THE MODERN HOSPITAL:

Will you kindly answer the following questions:

1. Is it the general usage to allow employees of hospitals a month's vacation, with full pay?

2. In case an employee is leaving after a year without having taken his vacation, is it customary to allow him an extra salary of, say, four weeks for his vacation?

3. Is there uniformity in hospital practice in this respect?

ARCHIBALD HADDON,
Muskegon, Mich.

1. No. Some hospitals give the office employees a month, with pay, when they have served two years or longer. Regular employees, such as floor maids, house men, etc., one to two weeks.

2. No. If he is allowed a vacation and does not take it, he should not expect extra pay. The superintendent should insist on his taking a vacation for his own good, as well as for the good of the institution he serves.

3. There is no uniformity of vacations or wage scale for hospitals.

ASA BACON,
Superintendent Presbyterian Hospital, Chicago, Ill.

Flooring for Hospital Kitchens.

To the Editor of THE MODERN HOSPITAL:

Will you kindly advise me what you consider the most satisfactory flooring for use in hospital kitchens? Also give a second and third choice.

H. E. BISHOP,
Superintendent Robert Packer Hospital, Sayre, Pa.

The best kitchen flooring, I believe, is terrazzo, with mill-made, hexagonal, 12-inch tiles, and mill-made, rounded-cove bases of the same material. This flooring costs more than most others, but after it is down your troubles are over. If there ever comes a crack from settling of the building, the particular slabs involved can be taken out and new ones laid, and you will never be able to tell there had been a crack. When this flooring is laid solid over the whole floor and hardened in place and polished, you will never be able to mend a crack so that it will not be an eyesore. The cove bases should go at least nine inches above the floor and set flush with the plaster.

Some of the composition floorings are as good as anyone could want when they are laid by skillful people, either solid or in the form of mill-made tiles. There are some advertised in this journal, and, before the advertisements were accepted, at least one of the editors had investigated the flooring or had used it, and THE MODERN HOSPITAL was willing to stand behind it. But these floors require extreme care in mixing the material and in laying.

A third excellent kitchen flooring is made with common concrete, with one of the cement floor finishes over it. Some of these are also advertised in this journal, and the same careful investigations were made concerning their reliability that were made of the above.

Concrete with common cement will not do at all, because it cannot be kept clean. Wood will not do, because it will not stand up under the hard usage and the scrubbing with lyes and other alkaline grease removers. Vitrified tile, glass, and marble are too costly for the purpose, and linoleums, cork, and rubber will wear out too quickly under kitchen use.

HINTS FOR HOSPITAL SUPERINTENDENTS.

Think about your wall colors in terms of reflected light. The dark reds, greens, and browns will reflect only 10 or 15 percent of the light values; white, creams, yellows, up to orange, will reflect from 60 percent down to 20, according to the lightness or darkness of the color. The greens and grays are admittedly the best for ward and private room use, as they are easy on the eyes and quieting on the nerves, but there is a limit to their usefulness, based on the amount of uninterrupted window light. For night purposes the white and cream are bad because they reflect glaring points of light, which are bad for patients. Light colors are best for ceilings with indirect lighting, but they should be in the flat finishes of paint or enamel.

Don't allow your architect to put in flooring for halls, corridors, vestibules, or anywhere else any of the striped or fancy figured marbles. They look very pretty in the show windows of the sellers and in the dainty frames in which they are exhibited. But their prettiest figures are outlined in various iron strata, which, when acted on by cleaning powders and hot water, soon disintegrate, leave depressions and cracks, and eventually they literally go to pieces. Most of these marbles break in the quarrying, and are mended with colored cements to resemble the original colors and texture. This cement comes out soon, and has to be renewed. The artificial marbles are far stronger, last far longer, and after a little while look much better. Native marbles, such as the Tennessee, and the various colored polished granites are all right.

Be very careful in the selection of your coal. Engineers—that is, consulting engineers—are fond of talking about and thinking in terms of "British thermal units," the magical "B. T. U." Coal dealers will talk to you about the chemical constituents of their coals, and try to sell to you the coal which has the highest potentiality. These terms are wholly misleading, because a coal of the very highest "B. T. U." may be wholly unfit, from a physical standpoint, for your particular fireboxes. Very much depends on the draft, as influencing the slow- and fast-burning coals; much depends on the coarseness or fineness of the coal and the mesh of your grates. With a fine coal and a coarse-mesh grate, much coal will go through to your ash heap; with a strong draft and a coarse, slow-burning coal, coupled with an automatic feed or grate, much coal may go over unconsumed. Moisture has a lot to do with coal values—you may be buying a lot of rain or snow water at coal prices, sometimes as much as 20 percent.

The only way to keep check on all these points is to have your own evaporation testing set. It makes little difference if you have a high B. T. U. coal if your particular plant is not getting the energy out of it. I have seen a coal capable of nine pounds of water for each pound of coal that in a certain plant could not be made to yield more than five pounds of evaporation per pound of fuel. The evaporation testing set can be installed for you by your own engineer on your own plant at a cost of about $100. It may pay for itself every week in a large plant, and is very much worth while in a small plant.

To hospital trustees: Remember that you are in the hospital a few hours a week at most; the regular staff is on the job twenty-four hours a day. Don't get into your head the notion that some little defect or shortcoming you may find means that somebody is derelict or that the whole establishment is inefficient. Perhaps the workers knew about the defect you found long before you did, and they had been overwhelmed for the time by other and far more important duties. Likewise do not try to stop everything and humiliate somebody when you find something wrong; better tell the superintendent what you saw, and let him or her handle it. In other words, don't "butt in." This does not mean that you are not to see things, but there is a right way and a wrong way to go about it. The moment employees find that the superintendent is not the final authority is a bad moment for that hospital, and the moment they get the notion that something had happened that a trustee knew and the superintendent did not will be another bad moment for the hospital. Hospital employees should be made to look up to the superintendent as the embodiment of knowledge and wisdom, and, if they think he can see through walls and around corners, so much the better for discipline and order. But, above all things, do not allow employees to come to you with tales; that is a rock upon which many a fine superintendent's efficiency has been shattered.

Don't forget that the public is becoming better educated every year and that most persons who visit hospitals have a tolerably fair knowledge of what hospital work is. The best and most popular medical men of our day find it advantageous to take patients or their interested friends into their confidence, tell them just what the trouble is, using language they can understand. They even go into the pathology of the disease in a superficial way, and tell what it all means, the cause and the possible and probable effects. Wise physicians feel that intelligent people are entitled to this information. Why should not the hospital staff, interns, and nurses be equally frank when there is no ethical reason for their silence? A good deal of discretion must be employed; it will not do to discuss a private patient's illness with anyone unless it is known that the attending physician would approve, and with ward patients care must be taken not to alarm them. But deception is called for in rare cases, and then only in the patient's interest.

When planning a new hospital or a new pavilion, sit down at some quiet time all alone, and run through, mentally, every move that is to be made in the new quarters in taking care of patients. Think about the service of food with a view to locating the dumb waiters and service rooms so that nurses will have the fewest possible steps to take, the smallest possible number of times a day; think about the length of haul of food carts from the kitchen to the dumb waiters; think about the convenience of arrangement for the visiting physicians, so that a man on a given service will not have to wander all over the house to see two or three patients; think about the cleaners, and the location of their hot water and the repository of their brooms, buckets, and mops. But, most of all, think of every item of work that the nurses will have to perform in the course of the day—the location of service rooms, running water for both patients to drink and for other uses, hot water bags, water for washing patients, rinsing waters, and so on. Think about the location of medicine cabinets, with a view to saving steps. Proper arrangements in these things may save many hundreds of dollars every year in labor.

The Woman's Hospital at Philadelphia will have a $20,000 children's ward added to the institution.

THE ST. PAUL MEETING.

Announcements from the American Hospital Association—Chicago Stop-Over Arrangements—Schedule of the Special Convention Train.

Dr. H. A. Boyce, secretary of the American Hospital Association, has sent the following two announcements to members of the association. It should be remembered if we, as individuals, are to get the largest possible measure of profit concerning our daily work, we must mix with those who are engaged in that work. Not the least part of the benefit derived from attendance on conventions is to be had when two or half a dozen congenial spirits get together in the evenings during the convention to talk over things at lunches and dinners. No one can be all that he should be to his institution by keeping to himself. Everyone charged with hospital responsibilities ought to attend the conventions. Boards of directors should expect their workers to attend, and should see that their expenses are met. Dr. Boyce's announcements follow:

THE ST. PAUL MEETING.

The next meeting of the American Hospital Association will be held at St. Paul on August 25, 26, 27, and 28, 1914. About ten miles distant is the beautiful city of Minneapolis. The scenery in and around these cities is very attractive. Their hospitals are very large and modern in every particular. On the way a profitable day may be spent in seeing the large Chicago Institutions.

The president assures me that a most interesting and instructive program is being prepared. Some of the best hospital workers in the world will be present to address the conference. Doubtless the St. Paul meeting will be the largest in the history of the association. This is an opportunity that no one in institution work can afford to miss. A visit to the noncommercial exhibit alone would be worth many times the cost of attending the convention.

Will you not carry this message to your hospital friends and induce them to join the association? The application form gives full particulars as to who are eligible as associate members and who as active members. The fee for the former is $2, that for the latter $5. Please have the inclosed application form filled out and forward it with the necessary fee to the secretary today. A copy of the transactions of the Boston convention will be forwarded on receipt of application.

Thanking you for your prompt attention to this matter, and hoping to see you at St. Paul.

FOR SUPERINTENDENTS OF NURSES.

At the Boston conference of the American Hospital Association it was unanimously agreed that superintendents of nurses should be welcomed as associate members of the association. The fee is $2. This entitles the member to a copy of the fifteenth annual report of the Boston convention. This number is particularly interesting to the members of the nursing profession. It contains the report of the Committee on the Grading of Nurses, a paper entitled "The Employment of Third Year Nurses as Specials," and many other things of interest to the principals of training schools.

The discussions in connection with the "Round Table Conference," "Question Drawer," and the "Small Hospitals Section" should interest every member of the profession. These different sections of the program give an opportunity for each one to tell her difficulties to those who have passed through many a similar trial, and who are thereby enabled to give timely and wise advice as to the best methods of meeting the difficulties which so often beset the superintendent of the training school.

The next meeting of the association will be held at St. Paul on August 25, 26, 27, and 28, 1914. This city is beautifully situated on the Mississippi river. Nearby is the city of Minneapolis. Without doubt these, the Twin Cities, are noted for their surpassing beauty. Besides, they have some of the largest and best equipped hospitals in the world. Some of the best hospital workers in the world will address the conference. You cannot afford to miss this opportunity of hearing the best that the world can produce. At the meeting will be a commercial and a noncommercial exhibit. This alone is worth going to St. Paul to see.

Please sign the inclosed application form today. Remember the fee is only $2. A copy of the transactions of the Boston convention will be forwarded to you on the day your application is received.

If you are already a member, this letter will remind you of some friend of yours who would like to join the association.

CHICAGO STOP-OVER ARRANGEMENTS.

Mr. Asa Bacon and a local committee are to get up a program for those who can stop over for a couple of days on the way to the St. Paul convention. The program is not completed, but it will undoubtedly include visits to some of the large new hospitals and some social features that will be published later.

Arrangements have been completed by Mr. Bacon with the Burlington road for a special convention train from Chicago that will make the daylight trip for 300 miles through the picturesque scenery on the upper Mississippi. The Burlington has sent out the following information about the special train:

THE AMERICAN HOSPITAL ASSOCIATION TRAIN.

The American Hospital Association special train will be one of the handsomest trains ever assembled, and will carry the most modern equipment, including dynamo baggage car, buffet-club car, standard drawing room and compartment sleeping cars. "Burlington" colonial dining cars, and one of those thoroughly comfortable "lounge" cars for which the Burlington is famous, containing library, writing desks, club for men, observation room for ladies, and a veranda or sun parlor, entirely inclosed in glass, from which an unobstructed view of the historic and romantic scenery may be obtained.

SCHEDULE.

Leave Chicago 11:55 p. m. Sunday, August 23, and arrive at St. Paul 2:30 p. m. Monday, August 24.

This schedule has been arranged for the express purpose of giving the members and their families and friends an opportunity to view the beauties of the Mississippi river.

By those who know its charm, the Burlington's line from Chicago to the "Twin Cities" has been titled for more than twenty years the Mississippi River Scenic Line, "where nature smiles three hundred miles." For 300 miles the tracks are within sight of the majestic "Father of Waters," with a broad island-dotted expanse on the one hand and bluffs—real, heroic heights—on the other.

In order that the necessary number of sleeping cars may be provided to insure comfortable accommodations for all, the officers of the association have called our attention to the fact that it is quite essential that the members make their reservations as far in advance as possible.

PULLMAN FARES.

Lower berth, $2.00; upper berth, $1.60; compartment, $5.00; drawing room, $7.00.

All the members in the East, South, and Southeast could rendezvous in Chicago and use the special train.

Diagrams for sleeping cars on the special train are now in the hands of Mr. Asa Bacon, superintendent of the Presbyterian Hospital, Chicago, and if you desire accommodations, please write to him for them immediately.

The Suffolk County (N. Y.) Board of Hospital Supervisors recently adopted a resolution urging upon the state authorities having control in the matter the wisdom of liberal provision for the entertainment of insane patients as a "moral agency more effective on a large and general scale than the application of medical remedies to particular cases." The members expressed themselves as having noted with much interest the humanizing, quieting, and soothing effect of music and amusement on the minds even of disturbed patients at the Central Islip Hospital for the Insane.

REEDUCATION OF HEART CASES.

New York Makes Beginning in Important Field of Social Service—Another Case in Point.

Some years ago a young man employed as brakeman on a railroad was caught in attempting to make a coupling. His leg was crushed and was amputated. The job was not a very good one, and the stump became infected. He lay in a small rural hospital for three months, and two other amputations were made higher up. He was then removed to a large and better hospital, where a fourth amputation was made—this time at the hip joint.

Fig. 1. Heart patients—Learning to make cement articles.

From a healthy, strong young man he was reduced to almost a skeleton; his resistance was lowered until he had hardly any at all; he would cry like a baby on the slightest provocation, and altogether was in a most pitiable state. At the end of eight months from the time of the accident he left the hospital, broken down in health, weakened in mind, and helpless in body. A few days after his discharge the superintendent of the hospital ran across this boy, standing on the corner of an alley in the heart of the big city, with his cap in hand, begging for pennies of passersby.

He was picked up, sent to a farm in the country for a month, and employment was then found for him in the freight offices of a railroad. He went to night school, a rather expensive artificial limb was bought for him, and he became a boarder in a private family, where attention was paid to his comfort by a fine, motherly woman who had boys of her own.

This part of the story brings us down to about five years ago. Today that young man is assistant general freight agent of the railroad on which he was hurt. He has a wife and a fine baby boy. This boy knew nothing except the work of a brakeman, and, since that was taken from him by his accident, he knew nothing else to do; so he was reduced to practical beggary. But he fell into good hands, and was reeducated in an occupation that his handicapped condition would permit him to follow.

Several months ago the social service conference of Gouverneur Hospital, New York City, in a report called attention to the difficulties in the way of convalescents from uncompensated heart. Most of these patients, the report said, were very hard workers, employed as teamsters and in other occupations that required heavy lifting. These men were mostly very poor, and many of them had large families. The treatment of their cases consisted mostly of long spells in bed, with very special diets. As soon as they were discharged they went back to their old occupations, and were soon back with another "blow up." Presently diseases that started out as functional became organic, and the victims became permanent public charges until death came to their relief.

Now these heart cases are to be treated right, and the start made in New York will naturally be broadened into a nation-wide movement, so that the method of organization and work will be of interest. The movement is personified in the Industrial Schools for Convalescents, located on the Dunham Farm, just outside the village of Sharon, Conn. It is founded by the Social Service Conference of Hospitals of New York, and is financed by the splendid Burke Relief Foundation of that city and by private subscriptions. The farm is fitted up for only fifteen patients to begin with, and these must be passed on by a medical board composed of staff members in various New York hospitals, with Dr. Frederick Brush, superintendent of the Foundation.

Miss Helen Hilliard, formerly of Fordham Hospital, is superintendent, and Mrs. Marie D. Kling, who received

Fig. 2. Heart convalescents—Boys at work in cement molding.

her training in this work under Dr. Herbert J. Hall, is the Chief instructor. At the school men leaving the hospital after treatment for heart disease will spend a period of three or four months convalescing, and at the same time learning a trade which they may follow with a minimum of risk to their health.

Fig. 3. Heart patients—A class in cement molding—Learning the technic.

At the suggestion of Dr. Hall, of Marblehead, Mass., cement and tiling work are to be taught at the school. The accompanying illustrations, showing some of the patients at work, are furnished for use in THE MODERN HOSPITAL by Dr. Frederick Brush and Miss Hilliard.

UNCLE SAM AS A HOSPITAL EXPERT.

Special Institutions for Soldiers and Sailors Located With Excellent Judgment.

A glance over the 1913 annual report of the surgeon-general of the army, just issued, impresses one with the fact that our Uncle Sam is no mean hospital administrator, and that his social service, though inadequate, is excellently arranged. For instance, there are a number of general hospitals tolerably well distributed over the country, and there are some special hospitals admirably located, however inefficient they may be in point of equipment. This is the layout of the army hospitals:

The Letterman General Hospital at San Francisco, which is used as a base hospital for the Philippines, Hawaii, and Alaska. It is the post hospital for the Presidio and several other posts about San Francisco harbor, and it is the largest army hospital in the country. It has 200 beds, and treated 3,017 patients during the year, including surgery, mental and acute diseases, and there were 51 obstetrical cases, presumably officers' and enlisted men's wives.

The Walter Reed Hospital at Washington, a general hospital, was General Torney's hobby. It is a small hospital of 50 beds, but has highly developed scientific equipment, including personnel. There is a splendid laboratory of pathology, with trained men who are good teachers, an excellent surgical clinic, and other departments quite on a par with the above. This is the teaching institution for the army medical school, and one of General Torney's last recommendations contemplated a broadening of the service for newly appointed medical officers of the army.

The Army and Navy General Hospital at Hot Springs, Ark., is naively stated in the report to be intended for cases which may be cured or improved by hydrotherapeutic treatment. It has 150 beds, and in 1913 treated 930 cases. It has excellent equipment for employing the waters of the Springs, besides a gymnasium and other means for physical therapy. A new x-ray department for treatment was installed during the year.

But the best instance of Uncle Sam's judgment as a welfare worker was undoubtedly in the establishment of a great tuberculosis hospital at Ft. Bayard, New Mexico, where 928 cases were admitted last year. The hospital is situated 6,000 feet above the sea in the dry desert, with outlying mountains 9,000 to 10,000 feet high, which give to the hospital camp an almost equal summer and winter temperature. There are thirteen square miles in the hospital reservation, with a sufficient number of artesian wells for irrigating purposes to grow provender for fine herds of stock, and vegetables and fruits for the people.

There are many other hospitals controlled by the army, each having its special function, but the above are worthy of special note.

Dr. LaMoure Leaves Gardner.

Dr. Charles T. LaMoure, formerly director of the Massachusetts State Colony at Gardner, has resigned his position to accept the office of superintendent of the Connecticut School for Imbeciles at Lakeville, Conn.

Dr. LaMoure's work in dementia precox cases at Gardner attracted the attention of specialists in all branches of mental diseases, and earned for him the highest regard of the people of Massachusetts. Dr. LaMoure likewise instituted many improvements for the care and the cure of the mentally ill, and his great farm, rising and falling over the hills and valleys, was a veritable beehive of activity, and he did more than almost anyone had done to prove that there are very few patients who cannot become members of a well-conducted institution family, to their own great betterment and for the community's good.

Let us hope, as we certainly predict, that Dr. LaMoure will do as much for his new charges as he did for those he is leaving.

"Medical Review of Reviews" to Have Special Number Devoted to Women Physicians.

The May issue of the *Medical Review of Reviews* is to be a woman's number. All the articles contributed will be from the pens of women physicians whose work has achieved national importance. With the growth of the feminist movement the economic position of women has attracted universal attention. As medicine was practically the first profession open to women, it is only proper at this time to consider whether their entrance into the medical profession has been of benefit.

In order that women may present testimony by which they should be judged, it has been deemed advisable to give them an entire issue to present the evidence of the value of their accomplishments. In the laboratory, in the hospital, in institutions, at the bedside, and in public service, women physicians have performed a valuable function. As a tribute to their earnestness, enthusiasm, modesty, energy, perseverance, and scientific acumen, the May number of the *Medical Review of Reviews* will be dedicated to the women physicians of America.

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NEWS *of the* HOSPITALS *and* SANATORIUMS

Philadelphia and Vicinity.

The late Samuel K. Felton bequeathed $10,000 to the Methodist Hospital.

Builders are estimating on plans for a three-and-a-half-story and basement addition to the Maternity Hospital for the University of Pennsylvania.

Verification of the will of the late Countess Galli, just decided by the court, means the award of a $5,000 legacy to the Episcopal Hospital.

Contingent bequests of $25,000 each for Rush Hospital and the German Hospital are contained in the will of the late Samuel Jamison, or Ardmore, Pa.

The Atlantic City (N. J.) Hospital, realizing the necessity for the comfort of their nurses, has authorized the architects to prepare plans for the erection of a three-story brick building as a nurses' home.

We are glad to state that Philadelphia has been honored by the appointment of Rear-Admiral Charles F. Stokes, ex-surgeon general of the navy, to command the naval hospital in this city.

At a recent meeting of the County Medical Society, city of Philadelphia, the Committee on Hospital Dispensary Abuse was abolished, its duties being assigned to the Committee on Hospital Efficiency, which committee is better able to handle the duties of the former committee.

The will of the noted Philadelphia artist, Charles E. Dana, lately deceased, among gifts to many other institutions, includes a yearly payment of $100 and one of $5,000 outright to the Children's Hospital of Philadelphia and of $10,000 to the Wilkes-Barre Hospital, Pennsylvania.

By the will of William H. Dunwoody, Minneapolis, Minn., $1,000,000 is left for the founding and upkeep of the Dunwoody Home for Convalescents at Newtown, near Philadelphia. It is understood that this home is to be conducted in connection with the Orthopedic Hospital of this city, but the donor did not limit it in his will to the patients of the latter. All hospitals will be permitted to take advantage of the home.

Notices have been received to the effect that a hospital for the treatment of cancer and other diseases for which radium is believed to be an aid is soon to be erected in this city by the Radium Institute of Philadelphia, incorporated at Dover, Del., February 10, with a capital stock of $250,000. At the present writing it is not known whether this enterprise is approved by the medical fraternity of this city.

Commenting further on the fund left as a bequest by the will of the late Anna T. Jeanes to Swarthmore College, provided the college would eliminate all athletics, announcement has been made to the effect that this money will be used to erect a Friends hospital in this city. The hospital will be known as "The Jeanes Hospital," and will have $2,000,000 to start with. A limit of $5,000,000 was put on the new institution by the trustees in their state-

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ment to the court. George K. Johnson, of Philadelphia, will be president of the new Jeanes Hospital.

A meeting of the Philadelphia County Medical Society, held on February 25, was devoted to the discussion of the trained nurse. Dr. A. D. Whiting read a paper in which he outlined what the surgeon requires of the registered nurse commencing in the hospital. The speakers of the evening were Dr. A. D. Whiting, Dr. S. Solis Cohen, Miss Susan C. Frances, R. N., J. Claude Bedford, Dr. Wm. S. Higbee, Dr. Richard C. Norris, and Miss Margaret A. Dunlap, R. N.

Another large hospital is to be erected in Philadelphia, in the western part of the city this time. Eleven acres of ground at Cedar avenue and Fifty-fourth street, one of the most beautiful sections of West Philadelphia, has been purchased by the Roman Catholic authorities for the purpose. The assessed valuation of this property is $200,000, but the amount paid for it was not disclosed. It is generally understood that the contemplated improvement will provide hospital facilities for Italian catholics in that section of the city, with the Sisters of Mercy in charge.

St. Mary's Hospital, Frankford avenue and Palmer street, one of the very active hospitals of the city, is about to erect several additions to its present buildings, and architects are preparing plans for them. The additions contemplated consist of a five-story and basement wing to extend 170 feet along Palmer street and another wing 268 feet in length along Sepviva street, and the major portion of the latter wing will be five stories and basement. There will also be a five-story convent for the sisters in this wing and a two-story power house, with laundry.

About twenty-five of the best hospitals in Philadelphia have united with the County Medical Society Committee on the subject of dispensary abuse for the purpose of investigating a series of one hundred dispensary cases to learn what proportionate abuse of their facilities actually does exist. Each patient must answer the following questions: name; address; occupation; whether man, woman, or child; parentage; nationality; social status; number of children; income; whether renting or boarding. Trained investigators will then investigate the answers to the questions, and the results will be summarized as a basis for further action.

The hospital efficiency committee of the County Medical Society has continued its activities in the form of a joint meeting with the State Board of Charities for the purpose of formulating definite plans for increasing the efficiency and reducing the cost of maintenance in city hospitals. It was definitely decided that a uniform system of accounting, suitable for the fifty-five hospitals of the city, would be the first and most necessary improvement. Harry S. McDevitt and Will B. Hadley were chosen to investigate every hospital in this city and report at a later meeting. Property valued at $20,000,000 is owned by the hospitals, which employ 6,500 persons. Included in the plans are cooperation in buying supplies and the establishment in every hospital of a social service department, which will have as a permanent feature a follow-up system. The members of the hospital efficiency board are Dr. Edward Martin, Dr. Chas. B. Penrose, Dr. George L. De Schweinitz, Dr. Wilmer Krussen, Dr. John D. McLean, and Mr. Richard Waterman, secretary.

The Massachusetts General Hospital has just published a 333-page annual report, which is the one hundredth annual report of that famous old institution. The book is full of meat for hospital administrators and trustees and those who are interested in the support and efficiency of hospitals. One of the most patent facts about the Massachusetts General Hospital is the apparent ease with which the

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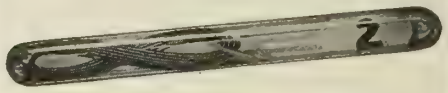

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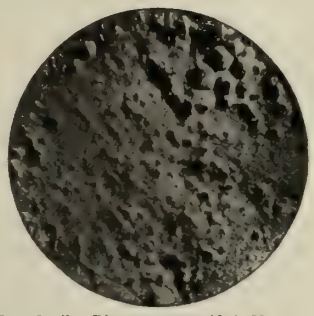

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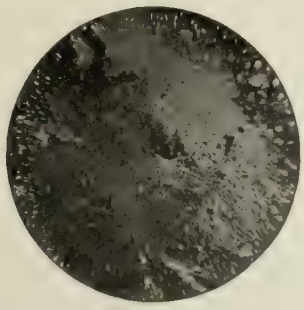

Best Oil Paint magnified 20 times. This shows the surface of one of the most expensive Oil Paints on the market.

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These photos show how totally unsuitable and unsanitary distemper and oil paint are for hospitals. Note the smooth surface of Paripan and the consequent ease of washing and disinfection.

This finish is superior to tiles, inasmuch as there are no joints and the price is only a fraction in comparison.

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institution has been able to get funds. It will do one's heart good to read over the published lists of donations as presented in the report. It will give one a fair idea of what a modern hospital is to read over even the table of contents. There are so many side-lights on the conduct of the hospital, reports about the various general services in the hospital proper, in the out-patient department, the follow-up system, visiting nurse work, the work of the women's auxiliaries, and a most entertaining account of the nursing in the hospital.

Trustees in those hospitals in which the medical staff do practically no scientific work and publish no papers would be greatly instructed by reading over the list of staff publications in the Massachusetts General Hospital for the year. Just exactly 104 papers have been published during the past year, based on research work by various staff members in the hospital. The titles of all these papers are published in the annual report, and each staff man is given proper credit for the work he has done.

The report includes annual reports of the McLean Hospital and the Convalescent Hospital at Waverly. In the tabulation of work done, by diseases, the international nomenclature has been employed.

Complete reorganization of the psychopathic wards of the Philadelphia Hospital and important changes in the general hospital department were announced yesterday by Acting Director Wilson, of the Department of Health and Charities.

Dr. Henry Sykes, for many years chief resident of the Philadelphia General Hospital, has been relieved of duty on account of illness. He has entered the Jefferson Hospital for a serious operation, which will necessitate a prolonged absence from duty.

Dr. William H. Walsh, superintendent of the Philadelphia Hospital for Contagious Diseases, has been assigned to act as chief resident physician of the General Hospital. Miss Roberta M. West, supervising nurse, will have charge of the Philadelphia Hospital for Contagious Diseases in Dr. Walsh's absence. Dr. Walsh was formerly in the Government service, and was appointed superintendent of the contagious disease hospital by the present administration. The Philadelphia General hospital, assigned to his supervision, is the largest general hospital in America, having more than 1,900 patients.

The changes in the management of the psychopathic wards are along lines of greater efficiency and social service. Heretofore these wards have been under the immediate control of the chief resident physician, with an advisory visiting staff of eminent neurologists. The staff of neurologists will be continued, but the wards will be placed under the immediate direction of Dr. W. W. Hawke, assisted by Dr. Alfred J. Ostheimer. Both physicians are specialists in mental diseases. Dr. Hawke was formerly chief resident physician of the Philadelphia Hospital for the Insane, and later was superintendent of the State Hospital for the Insane at Warren, Pa. Doctors Hawke and Ostheimer will perform the duties previously performed by Drs. Henry A. Newbold and E. Sherman Clouting.

Miscellaneous Hospital News.

Four great congresses of nurses will be held at San Francisco during the season of the exposition next year—one by the International Association of Nurses, representing fifteen foreign nations, including England, Ireland, Germany, France, Belgium, and Italy; one by the American Nurses' Association, with 22,000 members; one by the National League of Nurse Education, with 12,000 members; and one by the Organization of Public Health Nurs-

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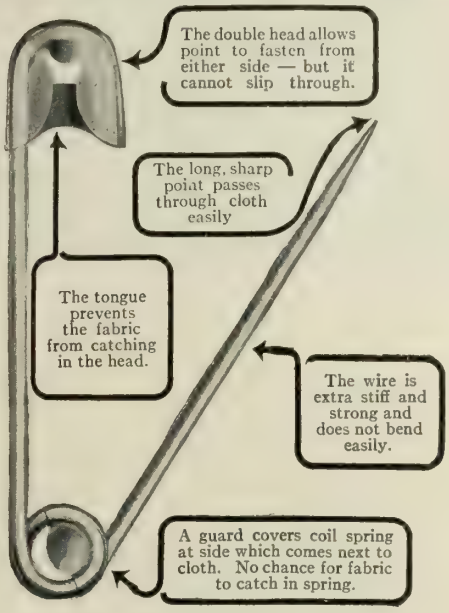
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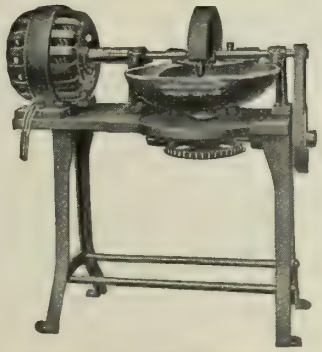

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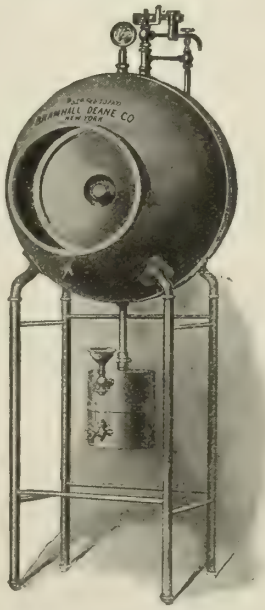

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ing, with an equally large enrollment. The California State Nurses' Association will act as host to the visiting nurses, of whom it is estimated that more than 6,000 will attend.

The City Commission of Salt Lake City, Utah, is considering the establishment of a new modern emergency hospital, the emergency hospital in use at present having proved inadequate to the needs of the city.

For the first time in the history of Bellevue Hospital (New York), women have qualified to become ambulance interns. They are Miss Helen Palliser and Miss Ana Tjohnlands, Cornell Medical School girls, who passed the recent examinations. They are eligible to be appointed July 1, but it is not yet known what action the board of trustees will take in the matter.

A campaign has been begun by the friends of Mount St. Rose Hospital, in St. Louis, for the purpose of raising a fund of $300,000 to provide needed additional room for the treatment of tuberculosis. A rather unique incident of the first week of the campaign was the selling at auction of a poor widow's mite, consisting of a 50-cent piece. Archbishop Glennon paid $1,000 for it.

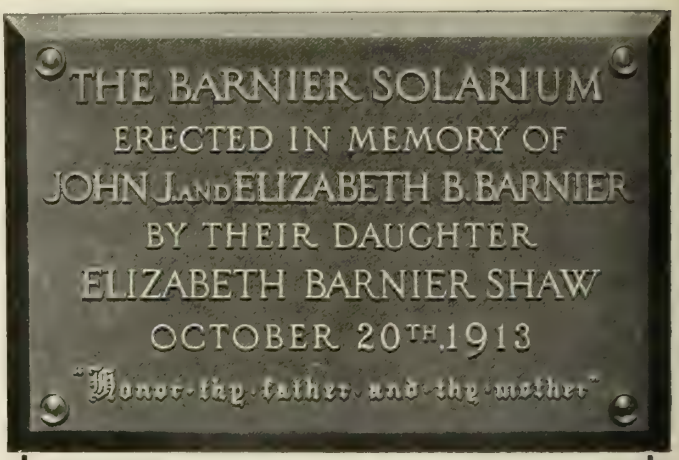
A bill has been introduced in the Virginia Legislature to provide for a $150,000 hospital for drunkards and opium and cocaine fiends. The maintenance of the institution is to be met by an increase of 50 percent in the liquor taxes, the proceeds of which increase are all to go to the hospital. It is said the bill has practically unanimous support and will become a law at once.

The state of California will soon begin the cultivation of 9,000 acres of farming land connected with the various state hospitals and state prisons with the view of producing practically all the food products used by the various institutions. The labor will be performed by the inmates of the hospitals and prisons, and the State Board of Control estimates that the plan will effect a saving to the state of $100,000 a year.

San Francisco is the first large city in the United States to have a union labor hospital. An organization known as the Union Labor Hospital and Training School Association has closed a lease whereby it takes over the McNutt private hospital for a term of ten years at a rental of $105,000. While general patients will be treated, special arrangements will be made for union labor men. The president of the association is a carpenter.

The little city of Canby, Minn., wanted a hospital, but could not see how it was going to raise the money to build it. John Swenson, an elderly and wealthy citizen, who had at other times shown an inclination to do things for his town, came to the rescue by donating his elegant residence, the building and grounds being valued at $35,000. Not content with this, he threw in $1,000 in cash to go toward equipment. Needless to say, Canby will have a hospital adequate to its needs.

Alliance, Ohio, has recently closed a rather unique contract with the Alliance City Hospital Association, a private corporation, by which the hospital board is to transfer its real estate to the city, which, in turn, is to build a hospital to cost not less than $50,000, with $25,000 more for equipment and a start in business. The hospital association changes its constitution so that eight members of the City Council and the president may be added to the board of directors.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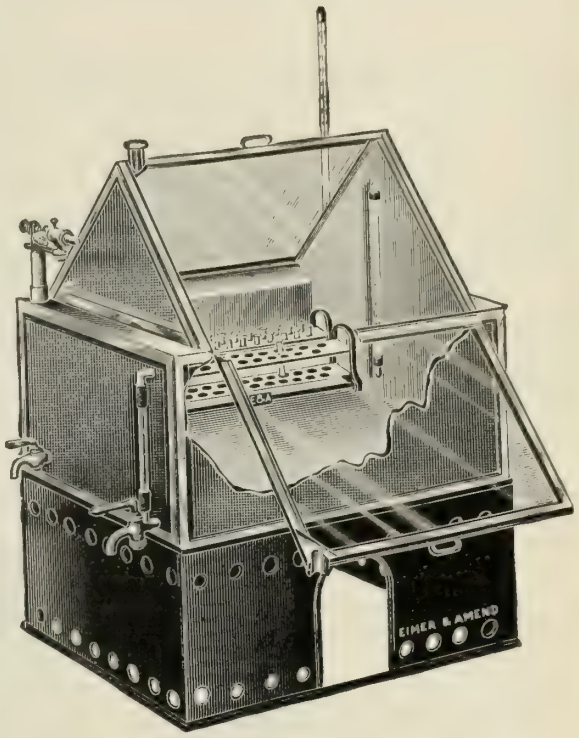

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ARCHITECTURAL AND BUILDING NOTES

A new million-dollar building is planned for the Beth Israel Hospital in New York.

The Sisters of Humanity of Mary have opened their new $75,000 hospital at Ottumwa, Iowa.

A campaign to raise $75,000 for the Passaic (N. J.) General Hospital will be opened about the middle of April.

Texarkana, Ark., is to have a new $100,000 charity hospital. It was provided for in the will of the late Michael Meagher.

The people of Detroit, Mich., are soliciting funds with the view of enabling the Detroit Tuberculosis Sanatorium to double its capacity.

It is reported that there is a strong likelihood of a United States marine hospital being established at Galveston, Texas, in the near future.

The people of Marion, Ohio, are becoming interested in a movement to establish a city hospital. It is proposed to raise the funds by public subscriptions.

The Sisters of Mercy have announced their intention of erecting a $50,000 hospital at Mason City, Iowa. Local physicians have subscribed $10,000 toward the cost.

Several cities in the West and Southwest are being considered by the Loyal Order of the Moose for the location of their proposed $2,000,000 national tuberculosis sanatorium.

The Baptists of Georgia are to build a new hospital at Atlanta on the site of the old Tabernacle Infirmary, which was recently purchased for $85,000. A fund of $100,000 is to be raised.

The new $150,000 Red Cross Hospital at San Mateo, Cal., erected by Mrs. Whitelaw Reid in memory of her husband, the late ambassador to England, has been opened to the public.

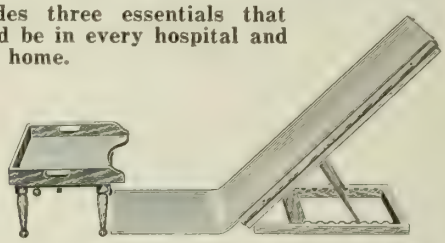
The joint tuberculosis hospital being built at Spring Lake, Ohio, by Mahoning, Columbiana, Stark, Summit, and Portage counties, at a cost of about $140,000, will be ready for occupancy in June.

A 600-acre tract of land near the town of Union Grove, Racine County, Wis., has been selected as a location for the $300,000 institution for the feeble-minded to be erected by the state.

The new Lutheran Hospital in St. Paul, Minn., to be known as the St. Paul Hospital, was formally opened in

THE "SAYBROOK" LINE

Includes three essentials that should be in every hospital and every home.



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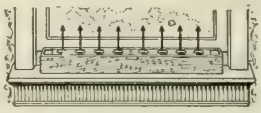

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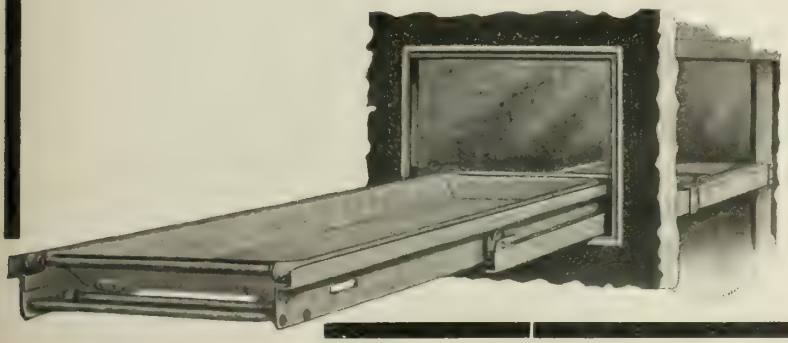

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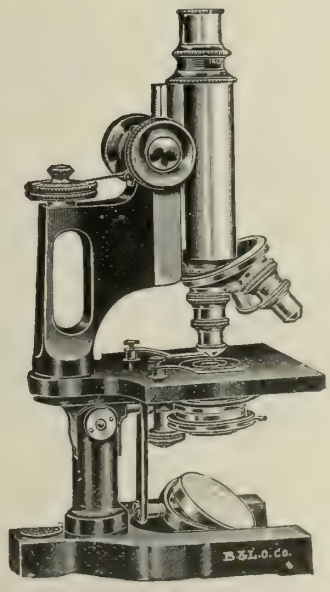

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March. The building was completed recently at a cost of $130,000. A $40,000 addition will be erected this spring.

The Benedictine Sisters are to build a new $100,000 hospital at Bismarck, N. D., to be known as St. Alexis Hospital. It is to be a general hospital to care for free and pay patients. Plans have been approved and building operations will begin in April.

Nearly 1,000 acres of land near Waukegan, Ill., has been placed under contract of sale to a representative of a large church society of Chicago, which plans the erection of a mammoth sanatorium. Just what organization is behind the undertaking has not been made known.

Capitalists of Washington, D. C., have purchased a tract of land near Statesville, N. C., containing a mineral spring already famous in that section of the country, and announce their intention of expending $200,000 to $250,000 toward the establishment of a great sanatorium and health resort.

The new $400,000 King George Hospital in Winnipeg, Canada, is now in operation. The building contains 175 beds, with room for 25 more when needed. The equipment is said to be thoroughly modern, including electric cooking ranges, a refrigerating plant, a steam plant, and a laboratory calculated to meet all the requirements of the institution.

It is reported that the erection of a new 100-bed private hospital will soon be begun in Akron, Ohio. Some of the prominent physicians of the city are responsible for the movement. The necessary funds are being raised from the sale of stock, which has been thrown open to the public. A training school for nurses is planned to be conducted in connection with the hospital.

Thomas L. Feigh, of Duluth, Minn., who a year ago gave $60,000 for the construction of three churches and the building of a children's ward, has donated $30,000 additional for the establishment in West Duluth of a children's infirmary. It will be exclusively for children who are crippled or have other infirmities, and medical or surgical treatment will be given free to all whose parents are not able to pay.

Citizens and business houses of Schenectady, N. Y., have subscribed $100,000 for the purpose of erecting and equipping an addition to Ellis Hospital. For some time the demands on this institution, which treats all classes of patients and bears the reputation of never having turned anyone away, has been greater than could be properly met in its present quarters. The hearty response from the people to the hospital's appeal for aid is a strong testimonial of appreciation of its services to the city.

The John Sealy Hospital, of Galveston, is to have a women's building and a nurses' home, each to cost $65,000. The construction of the women's building has already begun. It is to be four stories high and of a type adapted from the Italian renaissance. According to the Galveston *Daily News*, it will be equal in every particular to any similar institution of its size in the country. While the new structure adjoins the parent institution, it is nevertheless to be completely equipped in the most modern way, so that it may be operated as a separate and distinct hospital on all occasions.

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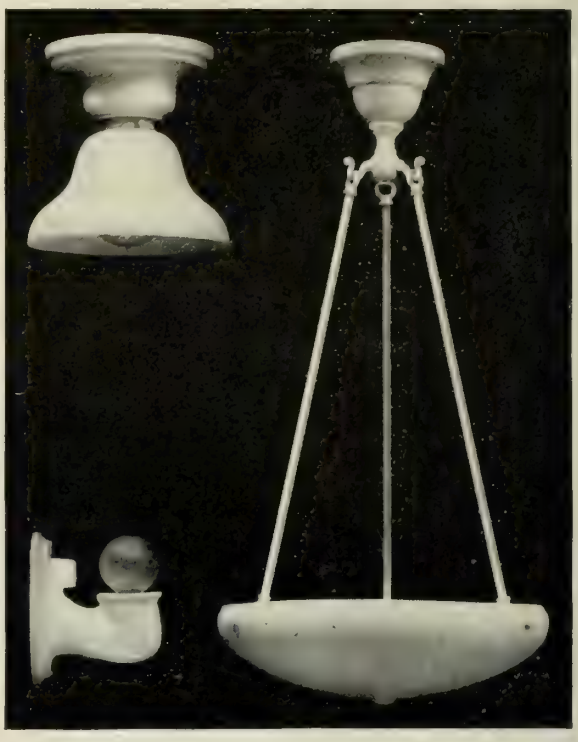

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. II — *May, 1914* — No. 5

THE ELIZABETH STEEL MAGEE HOSPITAL OF PITTSBURGH.

A Modern Hospital for Women Founded and Endowed by the Late Christopher L. Magee —Has Many New Features and Possibilities of a Wide Influence.

By CHARLES EDWARD ZIEGLER, A. M., M. D.,
MEDICAL DIRECTOR AND PROFESSOR OF OBSTETRICS, UNIVERSITY OF PITTSBURGH MEDICAL SCHOOL,
AND T. E. BILLQUIST, ARCHITECT, PITTSBURGH, PA.

THE late Hon. Christopher Lymann Magee, of Pittsburgh, left practically his entire estate of $3,500,000 for the building, equipment, and endowment of a hospital to be erected in memory of his mother. His homestead, consisting of a large frame dwelling, surrounded by ten acres of beautiful landscape gardens, and located in the residence section of the city, was left as the site for the new hospital. The administration of Mr. Magee's estate was intrusted by his will to a board of thirteen trustees. As his surviving widow was left the income of his estate during her life, it was not until her death, five years ago, that the funds became available for the use of the hospital.

The nature of the hospital to be erected was not definitely specified by Mr. Magee, but the original intention was to build a general hospital. Investigation, however, revealed the fact that over 30 percent of the beds in the general hospitals of Pittsburgh were unoccupied, so that there existed no need for additional general hospital accommodations. A clause in the will, moreover, directed that there be admitted to the hospital "all females who may apply for admission thereto for lying-in purposes," who were to be received without any questions being asked as to their past lives or identity. On the basis of this, the only definite provision of the will, the trustees decided to build a hospital exclusively for women. This decision was most acceptable to the community, as no other similar institution exists in the city.

In coming to a decision as to the organization and conduct of the new hospital, the trustees showed rare good business sense in securing the best obtainable advice. Letters were sent to the leading obstetricians in the country holding the chairs of obstetrics in the leading medical schools. Replies were received from the following: Dr. J. Whitridge Williams, Johns Hopkins University; Dr. Barton Cooke Hirst, University of Pennsylvania; Dr. E. B. Cragin, Columbia University; Dr. J. Clifton Edgar, Cornell University; Dr. Charles M. Green, Harvard University; Dr. Reuben Peterson, Ann Arbor University; Dr. Joseph B. DeLee, Northwestern University; and Dr. J. Clarence Webster,. University of Chicago. These gentlemen were practically a unit in recommending that the hospital be made a teaching institution, that there should be a single head in the person of a medical director, and that the hospital .should care for both obstetric and gynecologic cases—a hospital for women, therefore, modeled after the well-known "Frauenkliniks" of Germany. A committee of the trustees later visited a number of the gentlemen above mentioned, with the result that the decision was soon reached to build a hospital based on the recommendations received.

This beginning was soon followed by the election of a medical director, and, on his recommendation, affiliation was established with the medical school of the University of Pittsburgh, making the hospital a teaching institution. The Magee residence was altered and equipped as a temporary hospital, and was opened January 19, 1911, for the reception of patients. To date over 1,300 obstetric and gynecologic patients have been cared for in this temporary institution, which is now to be supplanted by the new hospital. With the se-

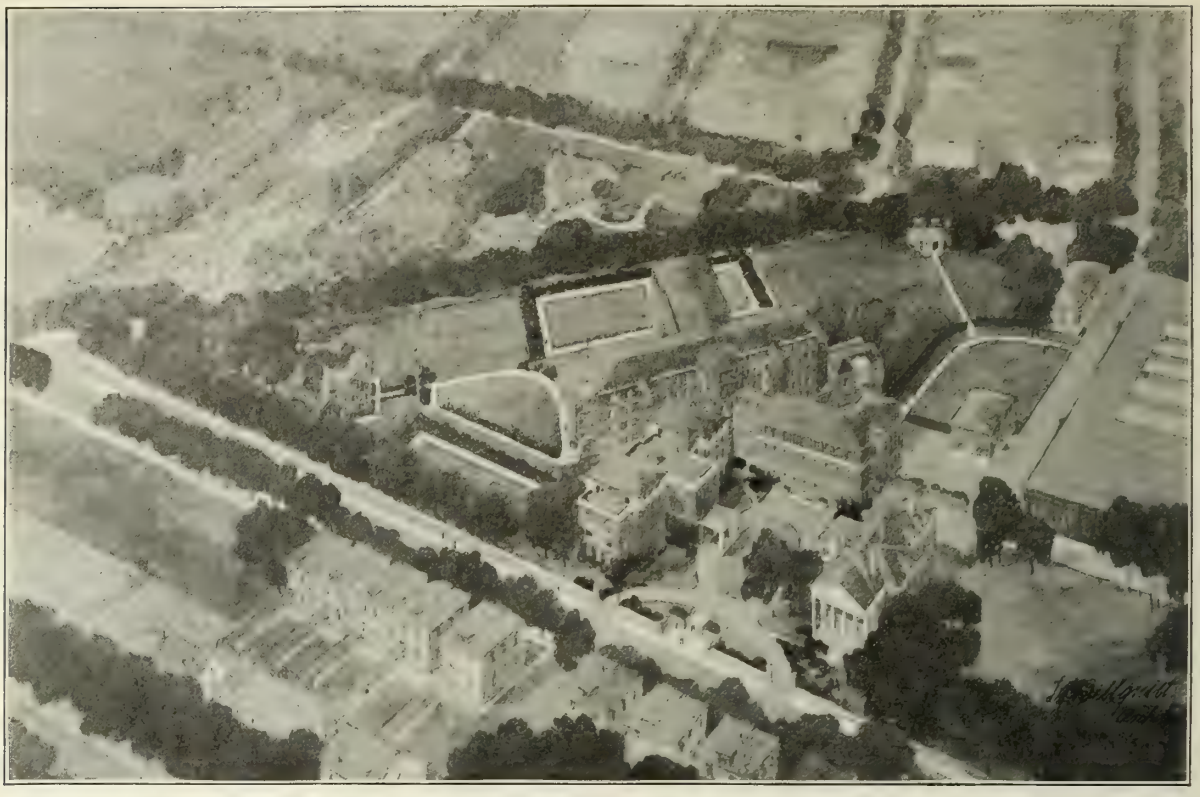

Fig. 1. Elizabeth Steel Magee Hospital—General plan and surroundings.

lection of the architect, the collection of a large amount of data and the preparation of preliminary plans were begun. Three years, more or less, have been devoted to the completion of the plans. After much waiting and many trying, but unavoidable, delays ground was finally broken on January 12, 1914, and the work of construction is progressing rapidly.

The hospital owes much to advice and criticism received from many helpful sources during the preparation of the plans, and especially to Dr. J. Whitridge Williams, of Baltimore. It is but just to say that it is due to Dr. Williams more than to any other one individual that Pittsburgh is to have the first typical frauenklinik to be erected in this country. The hospital was most fortunate also in securing the services of Dr. S. S. Goldwater, of New York, to whom credit is given for much invaluable assistance in working out the service and administrative features as set forth in the plans.

The new hospital will have accommodations for 140 adult patients and 80 babies. There will be 21 private rooms and accommodations for 37 ante-

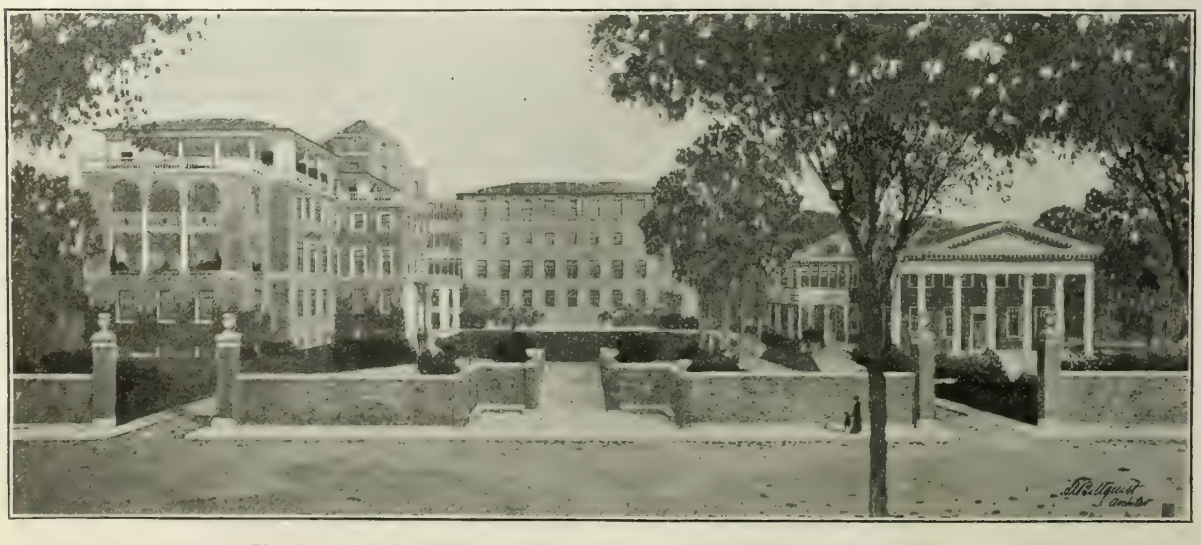

Fig. 2. Elizabeth Steel Magee Hospital—Perspective view of central building.

partum and 82 puerperal and gynecologic patients in the wards. Inasmuch as each baby requires just half the space given to an adult patient, the accommodations of the hospital, in terms of adults, may be said to be 175 patients. The cost of the hospital equipped will not exceed $650,000, or a cost of $3,700 per bed.

Provision has been made for future additions to the hospital. Two stories may be added to each of three wings and one story to each of the remaining two wings, or an addition of 125 beds, at an estimated cost of $800 per bed. In other words, the completed hospital, with accommodations for 300 adult patients, will cost $750,000, or $2,500 per bed. It is confidently asserted that no hospital of an equally complex nature, containing so many valuable features of construction and equipment, has ever been erected in this country at an equally low cost.

The new institution will be exceptionally well equipped for the care of the class of patients admitted and peculiarly adapted for teaching and research purposes, having an operating and teaching amphitheater, examining rooms, operating rooms, labor and delivery rooms, research laboratories, a medical library, a museum, and the necessary offices and other rooms for the medical director and his assistants. There will also be rooms for photography, x-ray, and hydrotherapeutic departments, and an isolation department for the treatment of infected cases, with the necessary operating and sterilizing rooms, etc. There will also be a number of "screened-in" open-air porches, sun parlors, and roof gardens, and the hospital will be surrounded by separated and isolated gardens for private patients, ward patients, physicians, nurses, and servants, respectively.

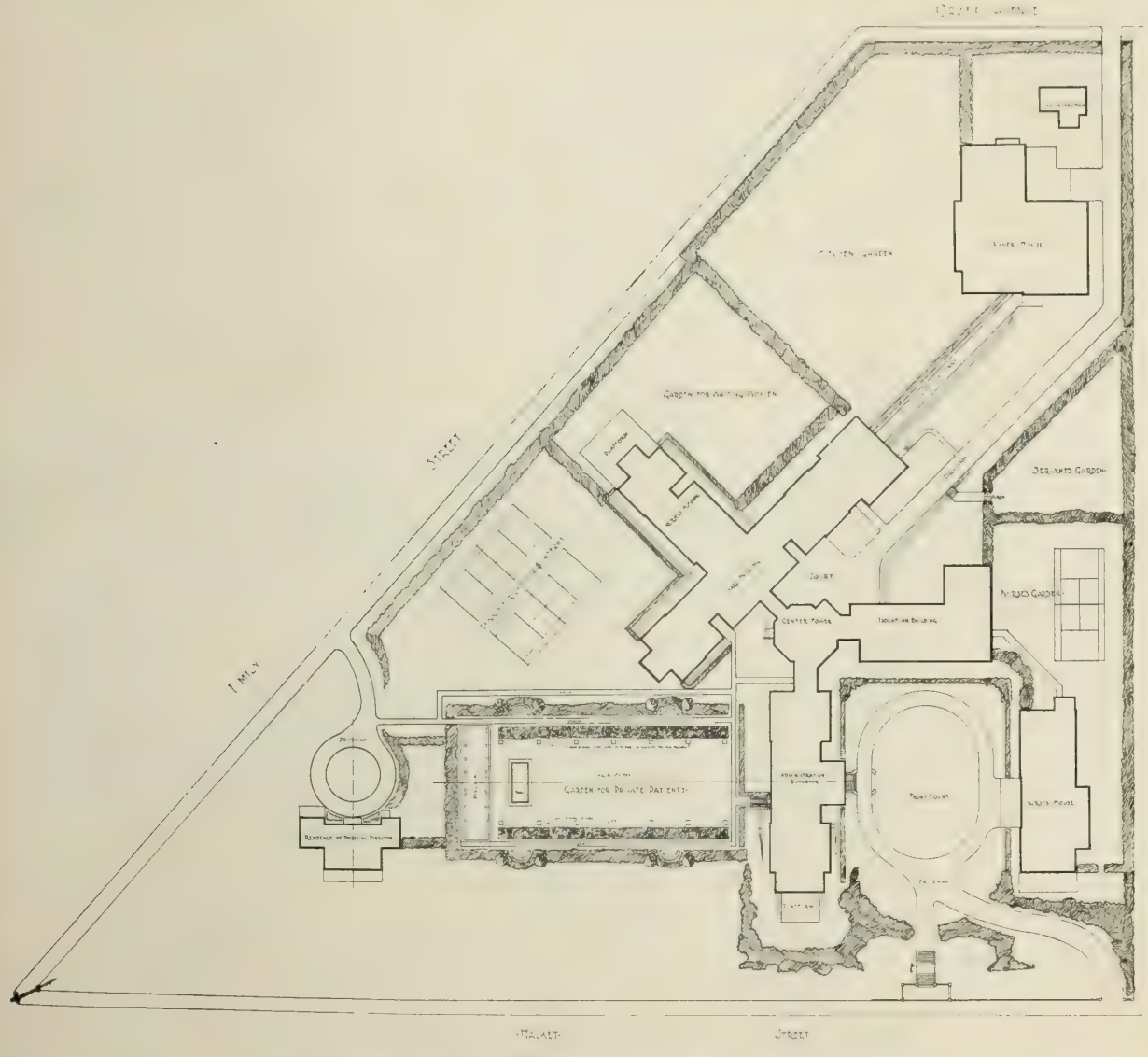

Fig. 3. Elizabeth Steel Magee Hospital—Ground plan of group of buildings.

The hospital group consists of three buildings connected by a central elevator and staircase tower. Reference to the plot plan will make clear

the arrangement and shape of these buildings. The administration building, the elevator and staircase tower, the service building with isolation ward, and the present temporary hospital—to be changed into a nurses' home later—form a court which faces northeast and opens on Halket street. South of the tower is the ward building, consisting of three wings, one wing running directly south, another directly east, and the third directly west. Every room is actually an outside room, ward building are almost wholly above ground and are surrounded by wide areaways, making them entirely sanitary and quite satisfactory for the purposes to which they will be put.

The main entrance to the hospital is from Halket street by way of the front court. The service entrance, which is used also for admission to the amphitheater, is from Craft avenue and terminates in the rear court between the isolation building and the west wing of the ward building. An

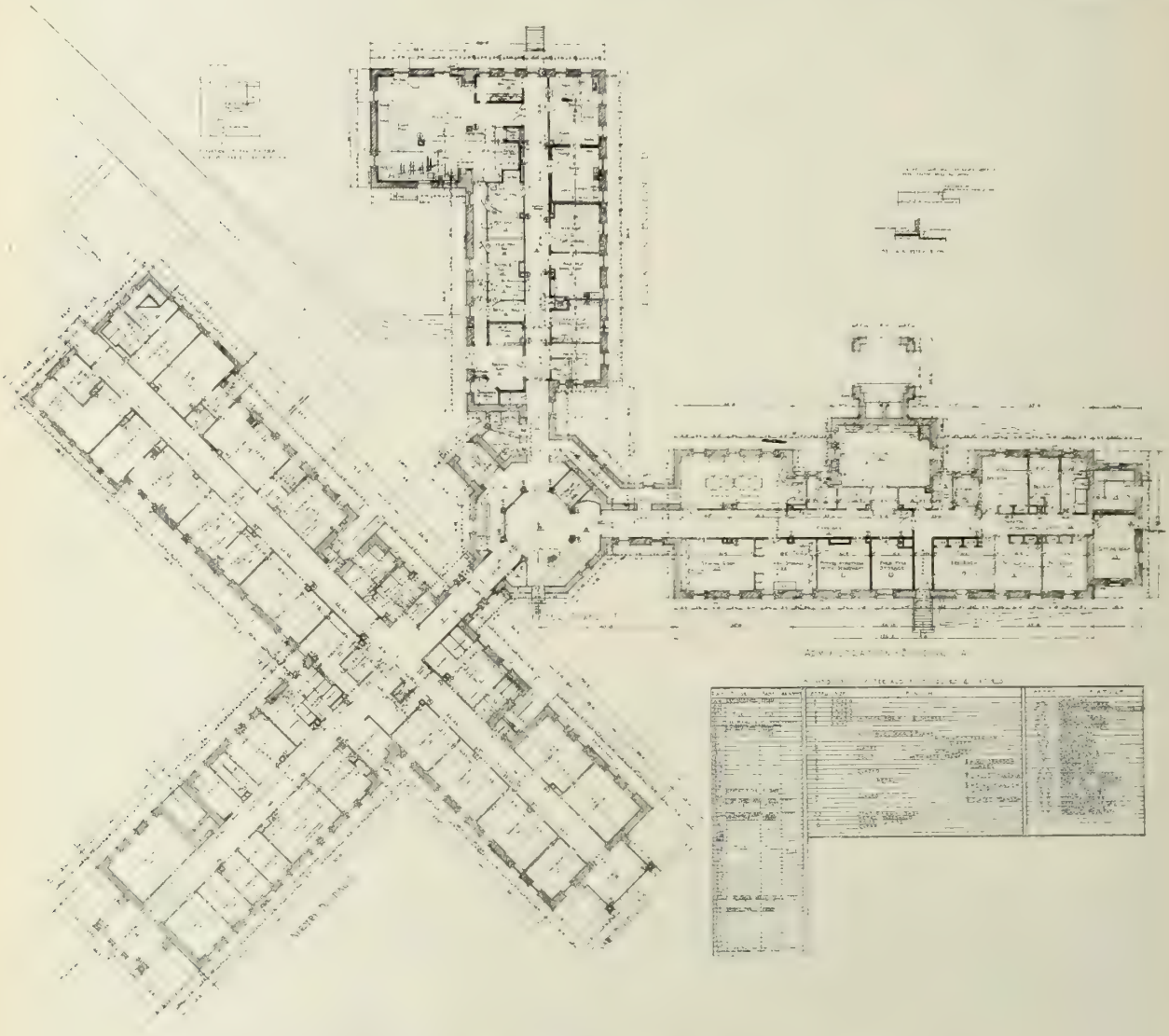

Fig. 4. Elizabeth Steel Magee Hospital—Basement plan of central building.

and it will be noted that the service rooms, toilets, lavatories, etc., are located on the north side of the building in each case, leaving the southern, eastern, and western exposures for the wards and private rooms. The administration building and the isolation building are each four stories high above the basement; the three-pointed ward building is three stories high above the basement, with a roof garden on the fourth floor of the wing running south. The basements of the administration building and of the south and east wings of the underground tunnel leads from the hospital buildings to the power building, which is situated near Craft avenue. In the power building are the boilers, pumps, sterilizing plant, engines, generators, refrigerating plant, and laundry. The boilers are in batteries, with a total horsepower of 625, and of the tubular type, with chain grate stokers. There are three steam engines and three generators. Of the latter, two generate 110 K. W. each and the other 50 K. W.

The heating system will use the exhaust steam,

with vacuum pumps on the returns. Practically the entire heating system is direct radiation, with the exception of the operating and incubator rooms, which are supplied with indirect heating. All radiators are hung on the wall and are of the hospital type. Wherever possible, dependence will be placed on natural ventilation, established through transoms and window ventilators. This will be supplemented by artificial ventilation in the wards, work rooms, service rooms, toilet rooms, kitchens, operating and delivery rooms, sterilizer, which will sterilize all the water used in the hospital, except that of the laundry and power plant. The sterilized water will be stored in an air-tight, dirt-proof tank, with a capacity of 19,000 gallons. From this tank pumps will force the water through the line under a pressure of 80 pounds, which will be maintained at all times. The drinking water will be carried by a separate pipe system, feeding cold sterilized water to the drinking fountains, located one on each floor in each building. The hot water will be heated with

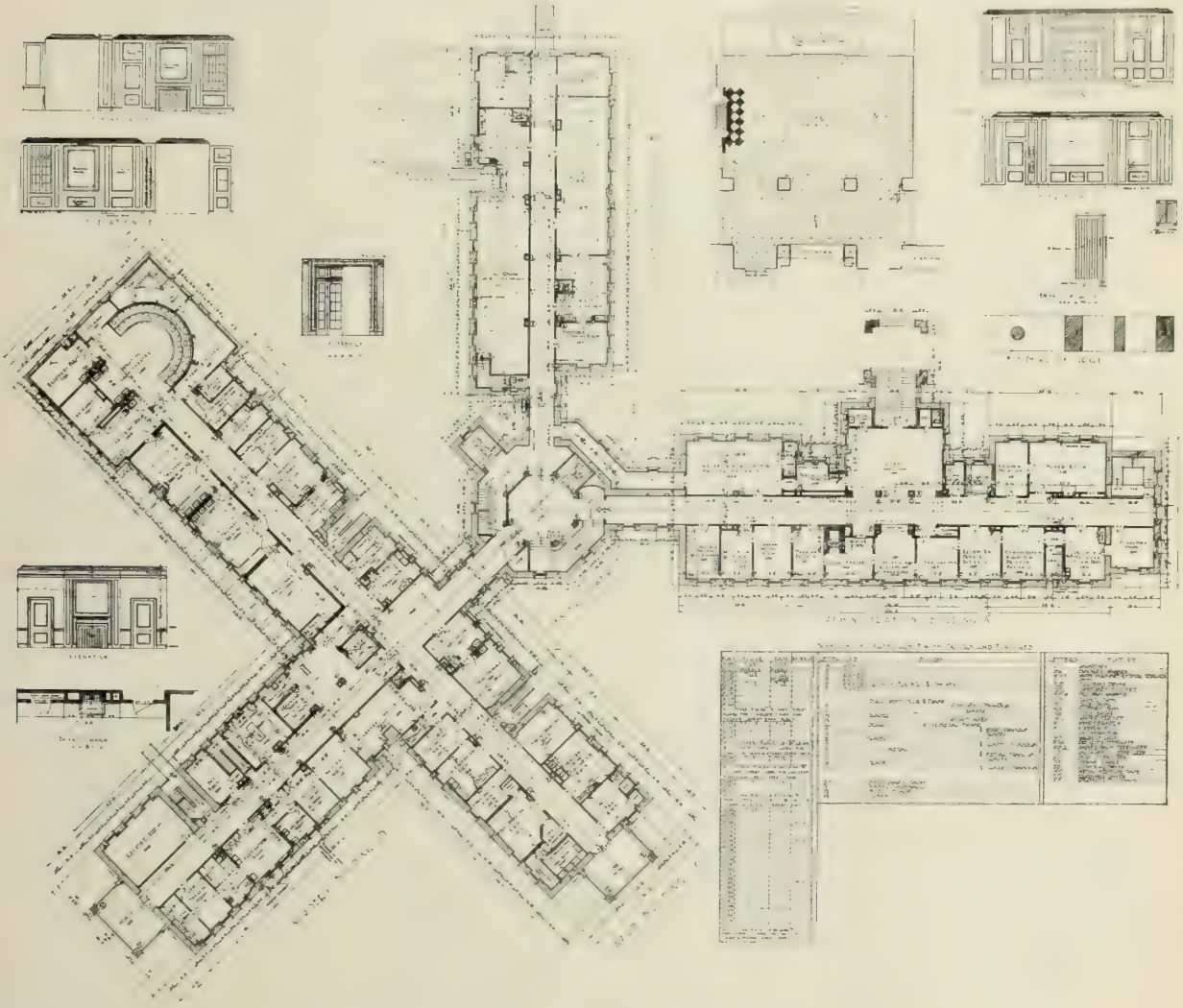

Fig. 5. Elizabeth Steel Magee Hospital—First floor plan of central building.

the incubator room, and autopsy rooms, from which the contaminated air will be removed through ducts by means of fans located in the attic. By means of fans also fresh air filtered through gauze will be forced into the amphitheater and incubator room.

The refrigerating system is the absorption system, and will take care of all the refrigerating boxes and rooms throughout the hospital and also the cooling of the drinking water. The water system consists of a 1,500-gallon per hour Forbes two large Kelly heaters, using exhaust steam. A return system will be connected with the heaters, giving thereby uniform hot water to every fixture throughout.

All plumbing fixtures will be hung on the wall by means of the Mann Manufacturing Company's latest improved hangers. All scrub-up sinks will be equipped with special knee-valves, three to each fixture, by means of which water of any desired temperature and in any desired amount may be secured—one valve for the hot water, another for

the cold, and a third for the supply. The babies' baths will be of special construction, consisting of a center sink 20x14 inches, a 13-inch bowl on either side draining into the sink, and two cork drain boards 4 feet long, 24 inches wide, and 2 inches thick, with circular openings cut into them over the bowls. These drain boards have 1-inch raised edges, are slightly elevated at their distal ends to favor drainage into the bowls, and are hinged so that they may be raised to the wall. Each board is supplied with the special knee-valves as described, and a temperature control with a rose spray.

(Chicago) make, and with flush Dahlstrom metal covered doors. The doors, with but few exceptions, will be 4 feet wide and will be provided with 1 foot 9 inch high flush wood transoms.

All outside windows are provided with glazed wood transoms, hinged at the bottom and equipped with wood wedge-shaped side shields, to provide natural ventilation without objectionable down draughts by throwing fresh air against the ceiling. The glazed wood transoms over double hung window sashes will be supported, when open, on angle irons fastened with hinges, so the transom may be dropped for cleaning.

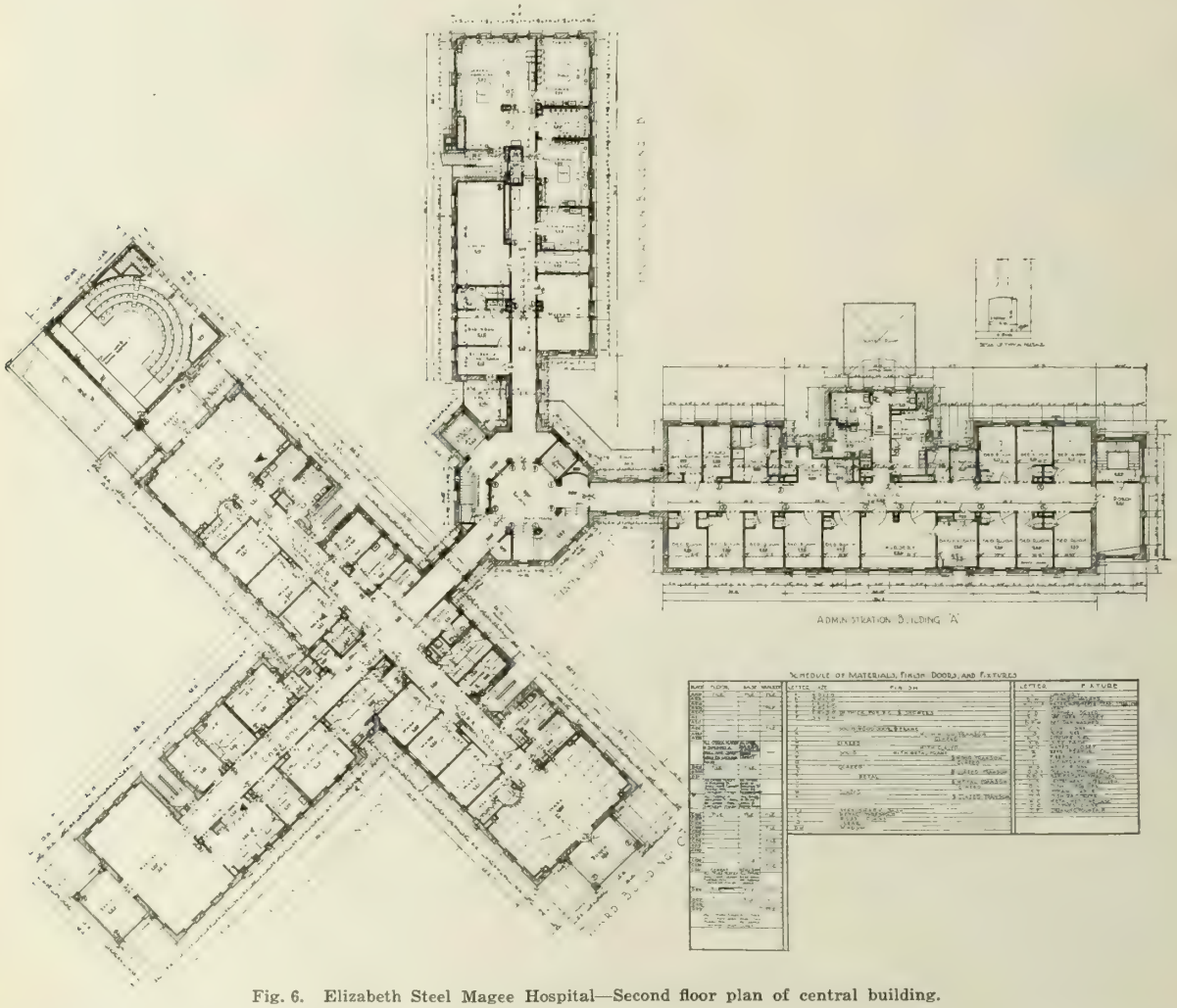

Fig. 6. Elizabeth Steel Magee Hospital—Second floor plan of central building.

The lighting of the hospital consists of a 110-volt current supplied from the power house generators.

All interior finish will be of plain white oak. All doors will be flush, without panels. The door frames will be wood throughout, with perfectly plain 3-inch wide trims, with rounded corners, except the door frames in exposed places, both in the basement and throughout the building, where iron door frames will be used, which are flush with the finished plaster, of the J. G. Braun

All framing is of structural steel, supporting tile and reinforced concrete fireproof floors. The brick foundation and exterior walls are supported on a concrete foundation. Dampproofing course extends under the entire building and against so much of the outside foundation walls as are below the ground level. The exterior walls will be faced with a rough, plain red brick, laid with sunk joints. Window sills, cornice molds, etc., will be made of glazed terra-cotta.

Concrete, placed on top of fireproof floor con-

struction, will be finished to an exact level to form a perfectly true and smooth foundation for a finished flooring of the Rixdorfer extra heavy battleship linoleum, to be glued down to the concrete over an isolation layer; the joints in the linoleum to be microscopic. Flat roofs are to be laid with red Akron tile, and sloping roofs with peach bottom slate.

The stories throughout are 12 feet in the clear. The corridors are 8 feet wide. The walls will be finished in smooth plaster and painted with cold water paint, except the operating rooms, labor rooms, etc., which will be finished in white enamel. The floors of the toilet rooms, work rooms, all operating departments, kitchens, serving rooms, etc., will be laid with white hexagon tiles 1½ inches in diameter. White Vermont marble partitions are provided for the shower bath and water closet alcoves, with glazed tile wall wainscot of the same height.

The signal system for the patients is a silent lamp system of the Holtzer-Cabot make, arranged so that a patient, in ward or private room, pushing a button will cause a light to show over the door of the ward or room, and also in the work room, diet kitchen, and head nurse's office. The call system for physicians and nurses is that used in the Presbyterian Hospital, Chicago. The message is sent by the telephone operator, using an especially devised instrument which transmits it simultaneously throughout the hospital to every corridor on every floor, where it is delivered by a small phonograph horn, in the ordinary tone of voice, carrying well, but without being objectionable or annoying.

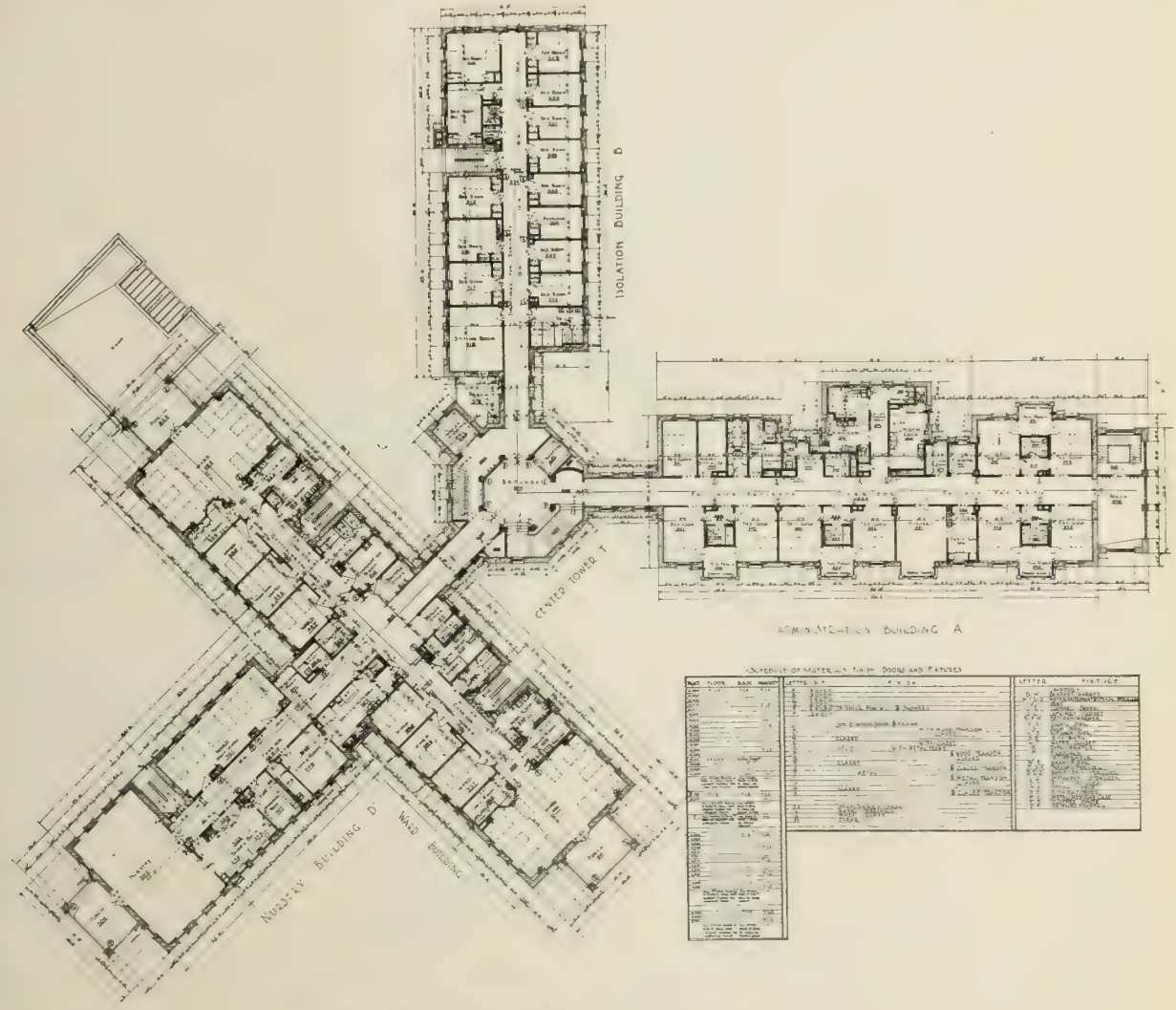

Fig. 7. Elizabeth Steel Magee Hospital—Third floor plan of central building.

ADMINISTRATION BUILDING.

Basement—On this floor are the following: the wholesale storage rooms for the kitchen and housekeeping supplies; the sewing and linen storage rooms; a clothes chute room; kitchen for the private rooms on the second and third floors and roof garden; a hydrotherapeutic department, furniture storage; and the apartments for the interns and students of six bed rooms, a bath room,

and a sitting room. These apartments are located in the east end of the building and are on the grade level, being about 13 feet above Halket street adjoining.

First Floor—A large lobby; a large reception room for the ward patients, adjoining which is the office of the social service worker; information and telephone operators' room; the bookkeeper's office; the offices of the manager and the directress of nurses, separated by a common reception room; a toilet, a lavatory, and cloak room for the female office employees; the office of the resident; a toilet and a lavatory for men; elevator entrance; housekeeper's closet; telephone booth; the board room; a suite of offices for private patients, consisting of a reception room, a consultation room, a dressing room and toilet, and an examination room; a study for the medical director.

Second Floor—On this floor are twelve very attractive private rooms; a large nursery, with a babies' bath room adjoining; a nurses' sitting room; bath and toilet rooms; a nurse's office, with toilet and lavatory adjoining; a linen closet; a stretcher closet, and the elevator entrance, all opening into the main corridor. In the short service wing projecting into the court are located the following: a serving kitchen, with food lift running from the kitchen in the basement; a work room; a service room; a housekeeper's closet; a blanket warmer; and a built-in medicine closet, provided with a small sink and running water. In the service room are found the instrument, water, and utensil sterilizers; a sink; shelves and closets for dressings, utensils, instruments, etc. In the work rooms are the clinic sink, bed-pan sterilizer, bed-pan warmer; deep utility sink, with drain board; drying closet; specimen closet, incinerator, and clothes chute opening. At the east end of the wing is a sun parlor, from which entrance is gained to the glazed-in fire escape stairway.

Third Floor—This floor is similar to the second floor, except that there are but nine rooms, there

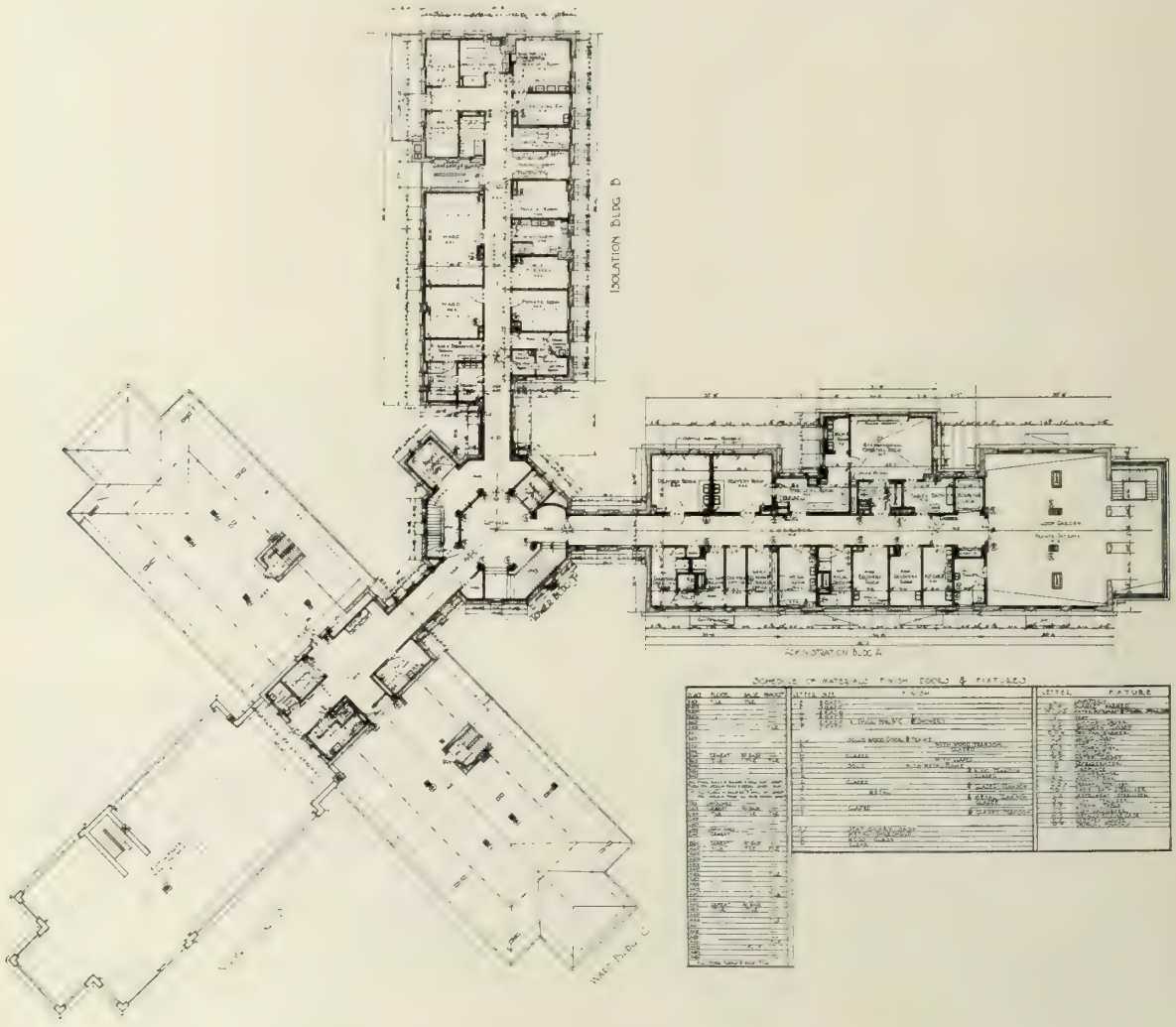

Fig. 8. Elizabeth Steel Magee Hospital—Fourth floor plan of central building.

being four suites of two rooms each, separated by a bath room and sun parlor, the latter being adapted for use as a private nursery if desired. These rooms are larger, more expensively finished and furnished, and intended for patients desiring something better than is usually found in a hospital.

Fourth Floor—The third of this floor nearest Halket street is given up to a roof garden, with serving kitchen and toilet room adjoining. The remainder of the floor is devoted to the delivery and operating rooms for private patients, consisting of a gynecologic operating room, with a scrub-up room adjoining; two delivery rooms, each provided with two scrub-up sinks; a babies' bath room; two recovery rooms, one being equipped for cystoscopic work; dressing rooms for the medical director and his assistants; physicians' office; nurses' office and supply room; a work room, where patients are prepared for labor; a nurses' dressing room; a stretcher closet.

SERVICE BUILDING, WITH ISOLATION WARD.

Basement—The main kitchen; storage for eggs, butter, milk, vegetables, and meat; the bakery; dining rooms for the male and female help; the housekeeper's office.

First Floor—Dining rooms for the physicians, nurses, and ante-partum ward patients; serving kitchens; a cloak room for the nurses.

Second Floor—Apartments for the resident; medical library; museum; the laboratories of pathology, bacteriology, and physiological chemistry.

Third Floor—Servants' quarters.

Fourth Floor—The isolation department for the care of infected cases, with the necessary operating and sterilizing rooms and all other necessary equipment.

The kitchen and the "stink chamber" in the laboratories are ventilated by a system of fans carrying the odors through a flue to the top of the chimney well above the building.

WARD BUILDING.

Basement—In the wings running south and east are located the quarters for 37 ante-partum ward patients, with all the necessary baths, toilets, lavatories, etc. They are largely above ground, are absolutely dampproof, and are surrounded by wide areaways. On the grade level at the end of the south wing is a large, uncovered concrete deck, to be surrounded by a hedge and protected by an awning-covered pergola. In the west wing to the south of the corridor are the rooms for fumigating, repairing, and storing mattresses and patients' clothing, and the carpenter shop. North of the corridor the basement is entirely above ground and opens into the service court. Here are found, in order from the tower west: the office for the assistant housekeeper; the locker and toilet rooms for the male and female help; an undertaker's room with refrigeration for six bodies; a large autopsy room; a small chapel; a students' manikin room, with toilets and lavatory adjoining.

First Floor—In the east wing are the drug rooms; a routine urine examination room, with a fan-ventilated hood; a room for photography; an emergency bed room for patients admitted at night, but not in labor; x-ray rooms; reception and examination rooms for gynecologic patients; a general waiting room from which gynecologic and obstetric patients are distributed to their respective departments. In the south wing are a reception room for obstetric patients, from which they pass, in order, to (1) the history-taking room, (2) the undressing room, (3) examination room, with bath and toilet adjoining, and (4) the dressing room, with linen room adjoining. On the west side of the corridor are the record room; a rest room for the assistant obstetrician on night duty in the delivery department; a stock room for gauze, cotton, and other supplies for the delivery and operating departments; a stretcher room; a housekeeper's closet. In the west wing are a labor room, with three beds; two two-bed delivery rooms, with scrub-up sinks; a sterilizing room, with instrument room adjoining; an operating amphitheater, with accommodations for 120 auditors; a recovery room; an interns and students' rest and note-taking room; office of the assistant on duty in the clinic; physicians' bath and dressing room; a cystoscopy room; a nurses' office and supply room; a preparation room; a nurses' bath and dressing room; a babies' bath room, equipped for the preliminary routine care of the new-born infant and to meet any accident or emergency which may arise.

Second Floor—The east and west wings are devoted to post-partum patients, and largely duplicate each other. At the end of each is a 10-bed ward, adjoining which are three 2-bed wards on the south side of the corridor, providing accommodations for 32 patients, with all the necessary linen rooms, service and work rooms, toilets, baths, lavatories, serving kitchen, with dining room adjoining for ambulatory patients; an examination or treatment room; offices for the physicians and head nurse. The south wing is devoted to the babies, there being a large nursery; a bath room, with sterilizing room adjoining; an incubator room; a milk preparation room; a room for sick babies; a stretcher closet; a housekeeper's closet.

Third Floor—This floor is similar to the second

floor, except that the west wing is given over to gynecologic patients, and in the south wing a 6-bed ward for post-partum patients takes the place of the incubator room, milk preparation room, and room for sick babies.

Fourth Floor—The south wing has a roof garden for ward patients, a serving kitchen, toilet and lavatories, linen closet, a housekeeper's closet.

ELEVATOR AND STAIRCASE TOWER.

The tower is octagonal in shape, and is five stories high above the basement. It contains a passenger elevator and stairway, opening into a rotunda; a freight elevator and service stairway, opening into a side corridor encircling the rotunda on the west side. By this arrangement free communication is established on each floor between the ward and isolation buildings without going through the rotunda. Also on the first floor a side passageway connects the large reception room in the administration building with the service corridor, so that ward patients on admission reach the ward building, not through the rotunda, but by way of the service corridor also.

Special attention is called to the very unique clothes chute arrangement in the ward building. In each wing is a fire escape recess, with stairway, covered above, but largely open on the outside. Across one corner of this recess, usually next to the work room, is located the clothes chute. It is triangular in shape, is lined with cement, which is painted, and is closed in with vertical iron bars, so that, while protected from the weather, it is an open-air chute practically outside of the building. From the fire escape stairway the chute may be thoroughly washed down with a hose, the water finding its way into the sewer at the bottom.

The hospital is well supplied with elevators. The elevator in the administration building is for the exclusive use of private patients in going to and from the operating and delivery rooms and roof garden on the fourth floor, and to and from the basement, where access is gained to the private gardens. All visitors, the physicians and nurses, and private patients on admission, except when in labor, will use the passenger elevator or stairway in the tower. The servants and ante-partum ward patients will use the service elevator or stairway opening into the service corridor in the tower. The elevator in the ward building will be used exclusively in transporting ward patients to and from the delivery and operating department on the first floor and to and from the roof garden on the fourth floor.

It will be noted that private patients and their visiting friends never come in contact with the ward patients and the service side of the hospital; also that the ante-partum ward patients never get into the corridor leading to the physicians' and nurses' dining rooms, as they enter their own dining room by way of a stairway leading from the basement.

THE SCOPE OF THE HOSPITAL.

The hospital will care for obstetric and gynecologic cases only, and will be a teaching and research institution. The medical director, who is also professor of obstetrics in the University of Pittsburgh, resides with his family on the hospital grounds, is paid a salary sufficiently large to make him independent of private practice and to enable him to devote all his time to the care of hospital patients, to research, and to teaching. All fees received from private patients go into the hospital treasury.

The present temporary hospital cares for about 350 cases of labor annually. Associated with it, and having the same directing head, is the Pittsburgh Maternity Dispensary, founded two years ago and caring for 600 confinements a year. The combined material of these two institutions is very largely available for teaching purposes, and is at the disposal of the department of obstetrics of the University of Pittsburgh. With the completion of the new hospital and the extension of the work of the dispensary, it is confidently expected that the combined clinics of the two institutions will furnish not less than 4,000 confinements a year within the next half dozen years. With an obstetric service of this size, the develment of a large and varied gynecologic service is inevitable.

With a staff of well-paid and well-trained assistants giving their entire time to the care of hospital and dispensary patients and to teaching, with well-equipped laboratories of pathology, bacteriology, and physiological chemistry in charge of trained investigators, and with so large amount of clinical material, unexcelled opportunities will be provided students and practitioners of medicine for gaining practical experience and doing advanced work in obstetrics and gynecology.

Some idea of what may be expected in the new hospital, in the way of undergraduate instruction in obstetrics, may be gained by reference to what is being done at the present time in the temporary hospital: three members of the senior class are on duty at a time, sleeping and taking their meals at the hospital. They act as clinical clerks and assistants, and deliver all normal cases under personal supervision and instruction, the work being apportioned according to seniority. Each student remains on duty until he has witnessed nine deliveries, and following these until he has personally conducted three additional deliveries. Under constant supervision also, the students on duty

make all physical and obstetric examinations on admission cases; write all histories, labor, and puerperal records; make the final examinations on discharge cases, including the vaginals; make daily visits to all mothers and babies; make and chart all laboratory analyses, and give anesthetics. They also attend daily quizzes on the examination of pregnant women, the management of labor and the puerperium, and on obstetric technic. At the close of his service at the hospital the student is sent into the dispensary, where he is required to deliver, under supervision, three additional cases in the homes of the patients, to make ante-partum and post-partum visits, laboratory analyses, etc., following the technic which he has learned in the hospital. All dispensary patients needing hospital care are transferred to the Magee Hospital, where all major operative work is done by the professor of obstetrics before sections of students summoned for the occasion.

It is expected that within a few years following the completion of the new hospital each student of the medical school will be given an opportunity, before graduation, to conduct under supervision not less than 25 cases of labor, and that graduate students, as interns and salaried assistants, will be given exceptional opportunities to specialize in both obstetrics and gynecology. It is hoped not only that the standard of obstetric teaching and practice will be raised thereby, but also that much will be accomplished toward the solution of the midwife problem in this community.

The hospital also offers a three-months' course in obstetric nursing. The training school is in charge of an experienced directress of nurses, who is assisted by a staff of exceptionally well-trained head nurses. Pupil nurses are admitted from other hospitals through training school affiliations, as are also graduate nurses with satisfactory credentials from training schools of approved standing. The course is eminently practical, comprising lectures, recitations, and demonstrations, supplementing active service in the wards, private rooms, nursery, and delivery department.

TREATMENT OF DELIRIA IN GENERAL AND IN SPECIAL HOSPITALS.[1]

Study of Cases—Absence of Restraint and Depressing Drugs, and Employment of Baths and Eliminatives, Show Best Results.

By DONALD GREGG, M. D.,
ASSISTANT PHYSICIAN TO OUT-PATIENTS, BOSTON PSYCHOPATHIC HOSPITAL.

THE treatment of the deliria is interesting and important both from a medical and social view point. The object of this paper is not to extol any one method of treatment or any one drug; it is not to draw any comparison between the methods of treatment of different hospitals in different parts of the country. The object of the paper is to emphasize the general ideals that should rationally be sought in the treatment of cases of delirium, to show how these general ideals are approached in the treatment of cases in various hospitals, and to plead strongly for more rational treatment and for more adequate hospital provision for the care of these cases in general hospitals.

METHOD.

In the treatment of the deliria, general hospitals and hospitals for the insane have practically but one type of delirium in common—namely, delirium tremens. Consequently, in an attempt to compare the treatment of the deliria in general hospitals and in hospitals for the insane, cases of delirium tremens were chosen for study. At the psychopathic department of the Boston State Hospital no cases of delirium tremens are supposed to be admitted. Cases of alcoholic hallucinosis are admittable, however, and, as a result of the difficulty of making a differential diagnosis between these two conditions, a small number of cases are admitted as alcoholic hallucinosis and later diagnosed as merely delirium tremens. From the time that the hospital was opened in July up to the time that this study was undertaken, there were found in the records 10 cases diagnosed as delirium tremens. These 10 cases were taken, and represent the first 10 cases in the hospital, chosen chronologically without regard to other factors. The treatment that has been given these cases was reviewed, together with other factors relating to them, such as age, the period of time in the hospital, the complicating physical conditions, the condition on discharge, etc. Next, 10 cases were chosen from the records of a large general hospital. These cases were the last 10 catalogued as delirium tremens. No other factor, such as age, sex, or result, was considered in selecting them. Then 10 cases were studied at a large municipal hospital. Here an assistant resident picked out cases at random from the different medical services. But lest any conclusions

[1] Psychopathic Hospital Contributions. The previous contribution was by Dr. George T. Tuttle, entitled, "The Male Mental Nurse," published by the Boston Medical and Surgical Journal.

drawn from these three hospitals may seem inadequate and local, similar series of 10 cases each were studied at large general hospitals in New York City, in Philadelphia, and in Baltimore. In no instance was there any selection of cases on any basis other than chronological or chance. Thus 10 cases from an insane hospital were chosen and compared with 50 cases—10 from each of five general hospitals in various parts of the eastern states. The treatment given the cases was considered under five heads—namely, restraint, depressants, stimulants, eliminatives, and counter eliminatives. As far as possible the treatment of the delirium alone was considered; for example, if morphia were given, that was grouped as a depressant; if a c. c. pill, or some nux vomica and gentian were given during the convalescence of the patient, these drugs were disregarded and not classed as eliminatives or stimulants, whereas calomel and salts, or strychnia given hypodermically during active delirium, were justly so considered. In studying the treatment at different hospitals, various difficulties were encountered, due to the different systems of record keeping in vogue at different institutions. At one hospital a drug would be recorded as ordered p. r. n., and no record kept of the amount of the drug given. At another institution there was only a partial record of the treatment given. Elsewhere the ordering of the drug was recorded, but its discontinuance not noted, etc. At one hospital where camisoles and other restraint apparatus are in general use, no record of restraint orders is kept in the individual histories. Consequently absolutely accurate records of the amount of drug treatment or restraint given were not obtained from the study of the hospital records. In the main, however, an opinion could be reached as to the general line of treatment, and certain definite facts were obtained which seem worthy of record. Particular attention, however, should be called to the relatively small number of cases studied, and consequently to the inadequate basis afforded on which any final conclusions should be drawn regarding the relative mortality of cases of delirium tremens treated in general hospitals and in hospitals for the insane. From the study of these cases, information regarding the following facts was obtained: the age, sex, time in the hospital, number of complicating conditions, the number of times restraint was used, and the number of doses of drugs given, grouped as depressants, stimulants, eliminatives, and counter eliminatives. The results of 2 cases, one from the Psychopathic Hospital and one from a general hospital, are quoted as showing the details from which the following tables are compiled:

K., 38 years old; male; remained in the Psychopathic Hospital 34 days. His alcoholic condition was accompanied by one other complication. He was treated without restraint; received one dose of depressant drug; no stimulation; 9 eliminative treatments; no counter eliminative treatment; and was discharged recovered.

M., 40 years old; female; remained in a general hospital 3 days. Her alcoholic condition was accompanied by no other complication. She was treated with 3 orders for restraint; 55 doses of depressant drug; 20 doses of stimulant; no eliminative; no counter eliminative; and was discharged dead.

In the following table the results of 50 cases, 10 each at five general hospitals, are averaged together. In contrast with this average is shown the average result from the 10 cases studied at the Psychopathic Hospital:

	Sex	Age	Time in hospital	Complications	Treatment					Resulting mortality
					Restraint	Depressants	Stimulants	Elim.	Counter elim.	
Average of general hospitals.	8 m., 2 f.	39	10 days	.8	11.	19.	21.	3.2	.9	26%
Psychopathic hospital.....	10 m.	46	22 days	1.	0	.6	0	3.	0	0%

The most striking fact in this table is the difference in mortality—26 percent at the general hospitals and 0 percent at the Psychopathic Hospital. Next, it should be noted that this favorable result is obtained in spite of the fact that at the Psychopathic Hospital the cases were older and more commonly complicated with other morbid conditions, and, further, that the mortality of the cases varies directly with the amount of depressant drugs and restraint used.

Having thus determined, to some extent, the methods in vogue in the treatment of delirium tremens at general hospitals and at the Psychopathic Hospital, and having noted the consequences attendant on the use of depressants, stimulants, and restraint in general hospitals as compared with those at the Psychopathic Hospital, where baths, packs, and elimination, without restraint, are used, an attempt was made to see how generally the treatment used in the alcoholic cases was used in other cases of delirium at the Psychopathic Hospital. An examination of the

requisition blanks of the Psychopathic Hospital showed 70 different drugs ordered for the hospital during the past six months. The formulary of the Boston City Hospital showed 194 drugs, and that of the Massachusetts General Hospital 160 drugs, but the drugs ordered for a hospital dispensary, or the drugs named in a formulary, are a poor index of the medication actually given. Consequently an examination of the order books of the six wards of the Psychopathic Hospital was made. During the month of January, 1914, there were 877 orders written for treatment. An analysis of these orders is shown in the following table:

Average number of cases			95+
Total orders			877
Baths	343	39 percent	86 percent
Packs	80	9 percent	
Eliminatives	330	38 percent	
Stimulants	51	6 percent	14 percent
Depressants	33	3.5 percent	
Miscellaneous	40	4.5 percent	

Of the 877 orders, 86 percent were for baths, packs, and elimination, while only 14 percent were for stimulants, depressants, and other medications. Perhaps the most striking figure is that 33, or only 3½ percent, of the orders were for depressant drugs. These orders include those for morphia, bromides, veronal, etc., and total only about one order a day for the 95 cases in the hospital. The next more striking figure is that of 343 baths—most of them continuous baths—and means that during the thirty-one days of the month the twelve tubs used for prolonged baths were all in great demand.

DISCUSSION.

Careful study of the symptomatic psychoses, under which are included the psychoses secondary to certain infectious diseases, conditions of exhaustion, certain organic non-nervous diseases, and certain constitutional disorders, has shown no marked differential points by which, for example, a typhoid delirium can be distinguished from a delirium in pneumonia, or a diabetic stupor can be distinguished by a mental examination from a uremic coma. Moreover, careful autopsy examinations of the nervous systems of different types of these symptomatic psychoses have failed to show any normal recognizable macroscopic or microscopic changes. Consequently the theory has been advanced that these conditions are presumably not due to the primary infectious agents, but to secondary agents—metatoxins, that are dedeveloped in common by any one of these primary agents. Alcoholic delirium is admittedly the result of intoxication. Whether it is the direct result of alcohol serving as a toxin, or to some metatoxin depending on the alcohol, is yet undetermined. But whatever the theory of the cause of these psychoses, the treatment of these conditions is clear. In addition to the treatment of the underlying primary agent, which perhaps has generated the secondary metatoxins, it is necessary to further the elimination of these secondary substances, rather than by restraint and depressant drugs, to leave the patient exposed to their deleterious action. This elimination can be furthered by physical activity on the part of the patient; by warm packs, hot air baths, electric light baths, prolonged warm baths, increased ingestion of fluid by mouth, by voluntary or tubal feedings, free catharsis, rectal irrigations, salt solution enemata, hypodermoclysis, and intravenous salt solution injections. This elimination can be hindered by straight jackets or other restraint, by morphia and other depressant drugs. In the ordinary general hospital, however, no general provision is made for the treatment of the deliria. Usually there is an isolation or noisy ward, where these cases are moved when they become obstreperous. Here they are grouped for the benefit of the other patients in the hospital rather than for their own good. Moreover, often the *sine qua non* is quiet—physical and vocal. This is obtained in the speediest and most effective way—namely, by restraint and by depressant drugs, regardless of the fact that this method of treatment jeopardizes a patient's chance for recovery. Present facilities in most general hospitals necessitate this method of treatment, and the ignorance of many general practitioners of the results of this method of treatment, as compared with treatment by hydrotherapy without restraint, permits a continuance of present conditions.

The problems in medication at mental hospitals lie in refinement of the use of drugs for purposes of elimination, in decreasing autointoxication, and in rectifying pathologic action of the internal secretions. In eliminating substances from the body, there is ample chance for skillful medication. There are cases needing mechanical relief by enemata, cases needing to have the fluids drained off by purges, and cases that are already desiccated and need more fluid, although still requiring relief from intestinal stasis. There are acute cases that may even need to be bled to reduce their fluids, or to have lumbar punctures done to lessen an excessive amount of cerebrospinal fluid. There are cases where autointoxication arises from infected teeth, or tonsils, or from misplaced and adherent intestines. There are cases where presumably the thyroid thymus or pituitary glands, or the reproductive organs, are not functioning properly. In all these directions

lie problems in medication for cases in mental hospitals.

General hospitals have many lessons to learn from mental hospitals, especially in the management of the deliria. Not the least of these lessons is that depressants, stimulants, and restraint lessen, whereas baths, packs, and elimination greatly increase a patient's chance for recovery. Workers in mental hospitals cannot but profit by a thorough knowledge of the best methods of medication in use at general hospitals, and workers in general hospitals can lose nothing, but gain much, by familiarity with the best methods in use at mental hospitals, for every patient needing treatment has the right to have his mental activities properly cared for at a general hospital and his physical activities equally well attended to at a mental hospital.

CONCLUSIONS.

First. At the Boston Psychopathic Hospital about 86 percent of the treatment of all cases consists of baths, packs, and eliminative treatment, and only 14 percent of stimulants, depressants, and miscellaneous drugs.

Second. The results of the eliminative treatment of the deliria with relative freedom and hydrotherapy, and a minimum amount of medication, far excels in effectiveness the usual treatment by restraint and depressant drugs in cases of the symptomatic psychoses, including alcoholism.

Third. Every general hospital should be provided with the facilities for treating properly cases of deliria. Such facilities should include isolation wards where quiet is not essential, and continuous bath apparatus for hydrotherapy.

THE DIETARY DEPARTMENT OF THE JOHNS HOPKINS HOSPITAL.[1]

Preparation and Service of Food Under Direction of the Dietitian—Stores in Charge of the Matron—All Foods Bought by One Person—Duplicate Requisitions for Everything—Methods of Transportation.

By MISS A. P. ATWOOD, Dietitian.

PAPER VI.

THE dietary department provides all meals served to both private and public ward patients, to the staff dining room, and to the employees of the hospital. The nurses' home is the one department for which comparatively little cooked food is provided, having its own kitchen and dining rooms, its own dietitian and corps of employees. The department is under the direction of a chief dietitian, with two assistants, one of whom devotes her entire time to the practical work in dietetics done by the nurses. As yet no arrangement has been made for receiving domestic science graduates as pupil dietitians.

All foods are purchased by the hospital buyer, on orders approved and signed by the superintendent of the hospital. Perishable goods, such as meats, fruits, and vegetables, are purchased semi-weekly; staple supplies at such times as seem desirable, or when needed. All purchases are delivered at a receiving station and are checked up by the buyer. In addition to the store rooms for nonperishable goods, there is a series of cold storage rooms, which provide for the meat, fish, vegetables, fruits, etc. The quality of all supplies is passed on by the dietitian, and if she finds goods, on delivery, to have been misrepresented, or not up to the required standard, they are returned.

[1]This is the sixth of a series of papers on the domestic management of Johns Hopkins Hospital. Last month, "Organization of the Housekeeping Department;" next month, "Drugs, Medicines, and Surgical Supplies."

The diet school, where the nurses receive their training, is located in the kitchen building, in rooms specially fitted for its use, but separated from the general kitchen by a hallway. Here the special diets and special orders of all kinds are prepared, including such foods as broths, beef juice, scraped beef, salads, ice cream, custards, jellies, etc., and in addition the more delicate accessories of all trays for the private ward patients. An orderly is provided for the routine work of cleaning, window washing, the freezing of ice creams, etc. He also serves as one of the truckmen for delivering food to the private wards. The diet school maid does much of the lighter cleaning, as of shelves and cupboards, and has the general care of kitchen furnishings. She washes the larger cooking utensils, and all dishes, trays, and boxes used for conveying the food to the wards, which are returned unwashed. Each nurse is required to care for all smaller utensils used by her in the preparation of diets.

The course in dietetics is given to the nurses during their six months' probationary period. This is the moment when such training is of most value to them, for, after they begin ward work, they are better able to understand the uses of food for their patients, and, besides this, they are less interrupted in their ward work later; before they graduate they spend one week more, during

their intermediate year, in the diet kitchen to review their past work. While assigned to duty in the diet school the nurses are sent at meal hours to the ward diet kitchens to assist the nurses there in the serving of the individual trays to the patients, and in getting ready such foods as are prepared on the wards.

In the general kitchen the chef is responsible for the detail work and the general conduct of his assistants. In this kitchen all meals are prepared for the staff dining room and for the employees, and also all soups, meats, and vegetables for the private ward patients. Formerly all the food for the private ward patients was prepared by the nurses in the diet school, but this arrangement became impractical as the number of patients increased, giving, as it did, too much routine work to the nurses and leaving them too little time for that part of dietetics more closely related to their work.

All menus are planned by the dietitian, and are designed to suit the needs of the four general classes—private ward patients, the house staff, public ward patients, and the employees.

Menus for the private ward patients are sent one day in advance to the head nurses of the wards, who prepare the order for each patient according to the directions of the doctors, and are returned with the exact number of servings required for each article specified on the menu. The patient may, in special instances, express a desire for some special food, but the order for it must be given by the doctor.

Head nurses on the public wards send requisitions each day for the number of regular and special diets required. There are standard menus for ward diets—regular ward diet, soft, liquid, diabetic, cardio-renal, etc.—so that their preparation is easy when they are called for.

Daily requisitions for raw materials, such as eggs, milk, butter, fruits, etc., articles not requiring preparation in the kitchen, are sent directly to the store room, where the orders are filled. All requisitions for the various wards are signed by the superintendent of the hospital, or by one of his assistants.

Food supplies for the diet school, the general kitchen, and the various dining rooms are sent out each morning from the store room on requisition from the dietitian. Supplies are received in each place by a responsible person, and any variation from the amount ordered is reported to the dietitian, who adjusts the matter with the employee in charge of the store room. Duplicating order books are kept for this purpose, so that copies of each day's requisitions are on file both in the store room and in the office of the dietitian.

Goods sent out from the store room to the wards are placed in locked supply boxes, to which the head nurse in each ward has a duplicate key, thus insuring against loss during transportation. These boxes are transported on trucks to the various ward elevators.

All cooked foods sent out from the diet school and the general kitchen are in large containers.

JOHNS HOPKINS HOSPITAL.

DAILY ORDER.

Ward.....

.....19....

Milk (quarts)..... .....
Eggs (dozen)..... .....
Butter (pounds)..... .....
Sugar (pounds)..... .....
Lemons ....
Beef steaks ....
Chops ....
Chickens ....
Oysters ....
Bread (loaves)..... .....
Crackers ....
Fruit ....
.....
.....
.....
.....

Number of patients on
Ward diet ....
Special diet ....
Liquid diet ....

Total ....

....., Head Nurse.

SEMI-WEEKLY ORDER.

Special orders for Monday and Thursday, A. M.

.....

Tea ..... pounds
Coffee ..... pounds
Cocoa ..... pounds
Chocolate ..... pounds
.....
.....
.....

Orders to be ready for collection at 5 P. M. daily.

Fig. 1. Daily and semi-weekly order blank—Size, 4x10¼ inches.

Most of these are regulation steam table insets, which are fitted with the tightly clamped covers used on fireless cooker kettles. Thus the loss of much heat in transit is prevented, and the individual containers fit the steam tables in the ward kitchens.

Each private ward has its own food truck. This is divided into two compartments—one for hot

JOHNS HOPKINS HOSPITAL.
PURVEYOR'S DEPARTMENT.

Date ..... Private Ward .....

Number of patients on ward.

Milk (quarts) .....
Cream (quarts) .....
Kephyr (quarts) .....
Buttermilk (quarts) .....
Butter (pounds) .....
Cheese (pounds) .....
Eggs (dozen) .....

Lemons .....
Oranges .....
Grapefruit .....
Extra fruit .....

Bacon .....
Beef steaks .....
Chops .....
Chopped beef .....

Oysters on half shell .....
Oysters in bulk .....

Crackers .....
Dry Cereal .....
Syrup .....
Vinegar .....
Olive Oil .....
Salt .....
Pepper .....
Mustard .....
Flour .....
Vanilla .....
Marmalade .....
Jam .....
Lettuce .....
Honey .....
Parsley .....

Tea .....
Coffee .....
Cocoa .....

JOHNS HOPKINS HOSPITAL.

Private Wards. Daily Orders.

Date ..... Ward .....

Number of patients on

Full diet .....
Soft diet .....
Light diet .....
Liquid diet .....
Diabetic diet .....
Salt free diet .....
Obesity diet .....
Anacidity diet .....
Hyperacidity diet .....

Total number of patients .....

Special Orders.	Time.	
Broths—Beef		
Chicken		
Mutton		
Clam		
Beef juice		
Bread—White		
Graham		
Salt free		
Soup—Cream		
Clear		
Vegetables		
Meats		
Salads		
Junkets		
Custards		
Jellies		
Prunes		
Prunes and senna		
Stewed fruit		
Baked apples		
Extras		

Fig. 2. Purveyor's order blank—Size, 8½x11 inches.

MENU—TUESDAY, MARCH 31, 1914.

Breakfast.		Dinner.		Supper.	
Fruit—Oranges	24	Soup	24	Meats—Broiled chicken	12
Cereals—Rolled oats	12	Meats—Roast chicken	8	Broiled chops	11
Cream of wheat	12	Roast beef	15	Potatoes—Baked sweet	23
Broiled ham	23	Creamed chicken	1	Rolls—Plain	23
Potatoes—Browned	23	Vegetables—Potatoes	23	Salad—Tomato	23
Muffins—Cornmeal	23	Rice	23	Cake—Roxbury cakes	23
Total number patients on floor	27	Cauliflower	11	Fruit—Pineapple	23
		Tomatoes	12		
		Desserts—Ginger ice cream	20		
		Tapioca cream	6		
		Salad—Grapefruit and celery	23		

Fig. 3. Sample menu card.

foods, built on the principle of the fireless cooker, and one for cold. At serving time all hot special orders from the diet school are placed in one compartment with the containers of hot food from the general kitchen. The cold foods, such as raw oysters, salads, ice creams, etc., are placed in the other compartment. A dietitian is always present when the trucks are loaded to see that the proper articles and amounts are sent out. The truck is then taken to the diet kitchen of each ward and left until after the meal is served, when the food containers are returned in it unwashed, with any excess of food which has not been served to the patients.

The public ward meals are served in large containers, which are placed in covered boxes, one for each ward. These are carried on trucks to the various wards and sent on elevators to the diet kitchens. Owing to the large number of dining rooms, and the various classes of meals served in them, it is possible to use in some form practically all of the excess foods returned from the ward serving rooms.

The ward nurses assigned for work in the diet kitchens serve the individual trays. They prepare tea, coffee, cocoa, toast, and eggs used by the patients, and also the nourishments taken between meals. The trays, which have short folding legs, may be set across the patient's body while in bed, or, when the patient is sufficiently convalescent, a tray placed on the bedside table is used. Helpless patients are fed by the nurses. On the private wards the trays are carried to the patients' rooms by maids, two of whom are assigned to each ward kitchen, making it possible for the meals, especially the dinner, to be served in courses. Food returned on the trays is put in the garbage cans, which are emptied at regular intervals during the day.

The staff dining room will seat about one hundred and fifty people. This is separated from the general kitchen by a serving room, but is not so far distant as to prevent cooking such articles as chops, steaks, etc., as they are required. The dining room waitresses prepare tea, coffee, and toast in the serving room.

On the floor above the kitchen are located four dining rooms for the employees of the hospital. One is reserved for petty officers, assistants in various departments, telephone operators, etc. This will accommodate about fifty people. The meals and service here are practically the same as in the staff dining room.

One of the remaining dining rooms is used for women, one for men, and one for colored employees. About two hundred and fifty people are fed in the four dining rooms. All are served from pantries supplied with steam tables, the food being sent up in large utensils on the dumbwaiter from the general kitchen.

The preparation of the lunches for those on duty at night is attended to by the waitresses in the various dining rooms where their day meals are served.

The night superintendents of nurses have a lunch served to them in the nurses' home by the maid who is on duty there until 12:30 each night. This maid also prepares lunch baskets for all nurses on duty in the wards. These baskets are ready by midnight, and are distributed to the wards by an orderly. The orderlies' night lunches are given to them by their waitresses as they leave the dining room after the six o'clock supper. The lunch for the night engineers is prepared in the general kitchen, and is called for by them each night as they come on duty.

The doctors can secure a late cold supper in the staff dining room, which is opened at 11:30 p. m. Such articles of food are provided there as can be prepared by the waitresses before leaving for the night.

Waste from the general kitchen and diet school is divided into two kinds. Green stuff, such as refuse leaves of lettuce, cabbage, spinach, celery, parings of vegetables, etc., is separated, to be sent to the various laboratories where animals are kept. Anything not useful for this purpose is placed in garbage cans and sent to the crematory.

All of the bread and pastry work for the entire hospital, including the nurses' home, is done in the bakery in the basement of the kitchen building. Nothing of this sort is obtained from outside sources. This necessitates a force of three bakers, who prepare each day white and graham breads, rolls, cooked fruits for public ward patients and employees, and all desserts and ice creams, except those for the private wards, which are prepared in the diet school.

The butcher's shop also comes under the direction of the dietitian, and by this arrangement it is found that the meats are cut to greater advantage, and to better suit the purposes for which they are to be used. Two men are employed here, and one woman for cleaning, who divides her time between the bakery and the butcher's shop. Beef is purchased chiefly by the side, although some hindquarters and special cuts are used. Veal and lamb are purchased whole. Comparatively little pork is used, but considerable bacon and ham. Poultry is delivered daily. Much of the surplus fat trimmed from the meat is sent to the hospital laundry, to be used in making soap. The remainder, together with bones and refuse trimmings, is sold.

Supplies for the dietary department, such as

furniture, china, silver, linen, and cooking utensils, which are similar to those used in other parts of the hospital, are obtained by requisition from the general supply room, under the charge of the matron. Requisitions for new materials and broken articles for exchange are sent to the general supply room on Friday morning of each week. Supplies of clean linen, uniforms, aprons, etc., are obtained daily by waitresses and orderlies in exchange for corresponding soiled articles. Anything in excess of the actual number sent in for exchange is obtained only by a requisition signed by the dietitian.

Special articles of furniture for the dietary department, or cooking utensils not used elsewhere in the hospital, are filled by special orders and selected by the dietitian. All requisitions for this class of supplies, as well as all orders for repairs by carpenters, plumbers, painters, etc., are signed by the superintendent of the hospital.

GREENPOINT HOSPITAL—PART OF BROOKLYN HOSPITAL SYSTEM.

New Institution With 250 Beds Constructed With View to Cure of Patients, Efficiency in Administration, and Economy in First Cost—Some Special Features.

By FRANK J. HELMLE, Architect, Brooklyn.

THE Borough of Brooklyn, considered by itself, would be the third largest city in population in the United States, the second largest city in the value of its manufactured products, and the first city in the number of its individual homes. The hospital service of such a city, at least that portion in the hands of the Department of Public Charities, is an interesting and instructive problem. The work is carried on through a large central hospital and several smaller secondary ones. Each is designed to meet the needs of its particular neighborhood and still be part of the comprehensive system which provides hospital service to the entire borough. The Central Kings County Hospital is the development of the original public hospital of Brooklyn, and has now reached a capacity of 1,200 beds. Beyond the work from its own immediate neighborhood (and it draws from quite an extensive area), it cares for all lingering and convalescent cases, maternity cases, and psychopathic observation work sent to it by the smaller hospitals.

These secondary hospitals are in themselves very completely organized relief stations, and are equipped for emergency work of all kinds and for protracted cases where necessity demands. Greenpoint is the latest of these to be built, and represents the latest ideas both in plan arrangement and construction. It has space for 250 beds. Contagious cases, unless developed at the hospital, are cared for by the Department of Health. No fees are charged, and therefore no special accommodations are provided for "pay patients." Beyond these limitations, its work covers the field of the general hospital and it could therefore be considered a standard type. How nearly it approximates this may be more clearly understood from a study of the plan and the principles which governed its conception.

The function of the architect in hospital work is to get something built in which the patients can be cured. To do this, he must provide a plan in which the hospital staff can all work together to that end. Facilities for good organization and cooperation are therefore a first essential. The architect cannot guarantee these, but he can build for them. This means, in plan arrangement at least, having the working parts of the hospital convenient to each other, and this in turn means a careful study of the relative importance of these various parts, so that their position in the final scheme may be the correct one.

The site is a level tract 200 feet by 500 feet, with streets on all sides and the longest side facing south, from which direction come the prevailing winds. The more thickly populated section of the city, as well as the principal lines of communication, are to the west of the site.

The buildings were disposed in the manner indicated in order to secure the maximum southern exposure for the main building where the patients are, the minimum distance between power plant and points of power consumption, the greatest possible free garden space to the advantage of all the buildings, and the simplest possible arrangement of connecting driveways. With the exception of the power plant, the other buildings are purposely kept away from the main hospital building, so that the homes of the employees may have as much privacy as possible.

The central axis of the plan forms, in a general way, the dividing line between the sexes—everything to the east being female and to the west, male. The buildings themselves consist of a main building, fronting south, and several minor buildings forming a rectangle about it. The main building contains the essential elements of the hospital proper, while the minor buildings house

the accessory features. The inverted T-shaped plan of the main building permits an additional division in the building itself between things of a strictly hospital character along the front and those of a secondary nature in the wing to the rear. By this means we bring together at the crossing point of the "T," on a vertical line of circulation, those elements which are most closely interlocked in the cooperative work of the hospital, and we distribute them throughout the various floors, so that the ones with which the public have most to do come nearest the ground.

In the internal arrangements of the buildings, comfort of patients, convenience of hospital workers, and concentration of space except where useful, have been the guiding factors. The first makes for "cures," the second for "efficiency," and the third for "first cost economy."

The ward unit is the principal factor in the comfort of patients, and the plan of this deserves much study to determine its location with respect to the other parts of the building—first, with reference to freedom from noises; second, to avoid objectionable odors; and, third, to be convenient to "service" rooms.

Noises, aside from external ones, which can be controlled only by locating the building in a quiet place away from trolley lines and streets with busy traffic, are those from the necessary operation of the hospital itself. In so far as plan arrangement can affect the matter, the noisy elements, such as elevators, dumbwaiters, diet kitchens, baths, and toilets, have been placed as far from the wards as convenience would permit and separated from them by soundproof partitions. Floor finish is, of course, another important factor, and this in the wards is composed of a compressed cork tile, with terrazzo sanitary border and base, which makes a sanitary, noiseless, and easily cleaned, impervious surface, soft to walk on, but still durable.

Odors of an objectionable nature come from the hospital kitchen, diet kitchens, and operating rooms. The main kitchen is placed on the ground floor at the rear of the back wing, where no invalids are near it or over it. The diet kitchens, which must be convenient to wards, have special ventilation, described later under ventilation, taking care of any odors from that source. Operating rooms are all at the top of the building, and therefore entirely away from the wards, both in regard to noise and odors.

Convenience to "service" rooms is secured by arrangement of toilets and baths at one end of the ward and dining room and kitchen, etc., at the other. This brings both as close as possible to the ward itself, and still gives a sense of privacy and cleanliness that is quite worth while.

The convenience and comfort of hospital workers is a very important factor in administrative efficiency, and secondary only to that of the patients themselves. The features in plan arrangement (we are not here discussing furniture or equipment) which make for this are such matters as the location of all points where food is prepared and distributed, hospital supplies kept, soiled clothes collected, and where slop sinks, blanket warmers, cleaners' closet, etc., are situated. For example, all dining rooms, except patients' dining rooms, are next to the kitchen or just over it, and pantries, connected by dumbwaiters, serve separately the four types of workers—namely, doctors, nurses, male and female help, and common help. Patients' dining rooms are in every case just off their wards and next to the diet kitchens. These are in the same position on every floor, and have individual dumbwaiter service to each kitchen of each floor. One transfer of food in bulk in closed trucks is made between the kitchen and lowest level of these dumbwaiters.

The superintendent has a complete two-story

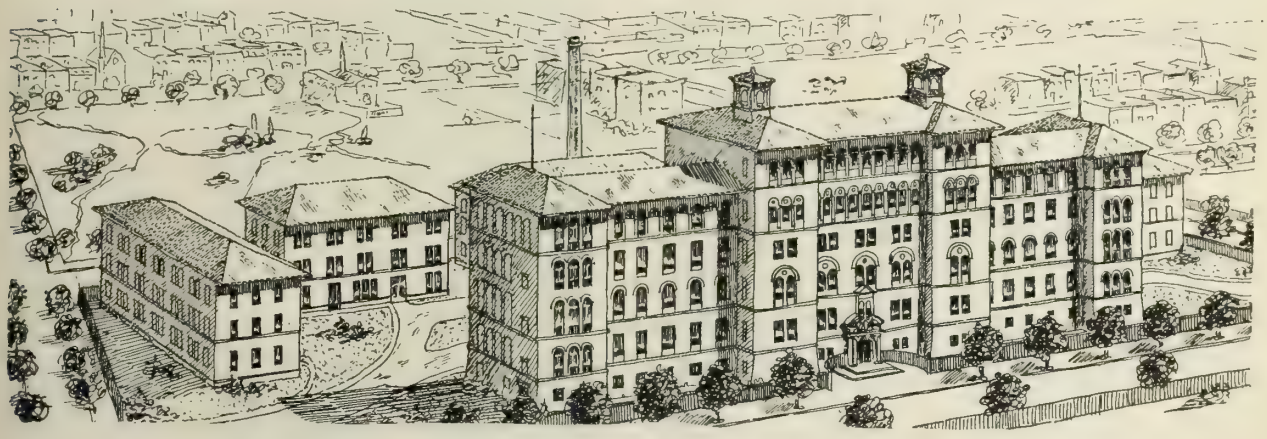

Fig. 1. Greenpoint Hospital—Birdseye view.

apartment, with pantry, dining room, and parlor on one floor, and two bed rooms, with bath, on the floor above. He is as centrally located as possible, but still has at least the same privacy he would enjoy in an apartment house.

The location of the kitchen on the ground floor (rather than under the roof, as is frequently suggested and sometimes done), with all its supply and store rooms immediately adjacent, makes for economy in handling and checking of food, disposal of waste, and the convenience of workers in that department, who come and go by their particular entrance and are never obliged to go through the hospital proper. The stewards' department, which is for hospital supplies only (no food is kept here), is entirely separate, also with separate entrance, and located on the ground floor of the east wing.

Every ward has slop sinks just off the bath rooms, and linen closet and blanket warmers in nurses' room near the ward entrance. There is a cleaners' closet, with slop sink, in the main hall on

Fig. 2. Greenpoint Hospital—Main building.

every floor and an extra one on the ground floor, where the cleaning work is greater.

Concentration of space, both in floor area and in ceiling heights, is the greatest factor in reducing first cost of construction, because, other things being equal, the smaller the bulk of the building the less you pay for it. The sizes of the principal features, such as wards, operating suites, administration, etc., are generally pretty definite requirements. The gain or loss in space is apt to be found in the space required to connect these. Here is where the three-wing plan has every advantage in saving corridor space, because one central hallway serves all three wings.

Another factor in first cost is simplicity of structural forms. The rectangle of moderate span is by far the cheapest form, in proportion to its cubic contents, that can be built. It will readily be seen that all the secondary buildings are the simplest possible rectangles, and even the main building is only a combination of several rectangular shapes.

The other great factor in "first cost economy" is to avoid both structural and architectural "stunts." Many people seem to think a hospital is a thing very much apart from any other type of building; that it should be all glass and iron, so that every corner can be flooded with sunshine; that it should be covered with balconies, where patients can spend their lives out of doors; that it should be built like a swimming pool, so that walls and floors can be flushed out with a fire hose; and that at the same time it should be cheerful, homelike, and domestic, so that the mental influence will be beneficial to the patients.

As a matter of fact, the hospital problem does

Fig. 3. Greenpoint Hospital—Detail of the main entrance.

not vary so tremendously from other problems with which the architect must deal. The sanitary corner, the impervious wall and floors, and the elimination of horizontal surfaces are about the only really new elements in hospital buildings, and they are all details of interior finish; otherwise the function of the architect is to carry out the sound principles of plan arrangement outlined above and build a "rational" building, which will answer its purpose not only at the present time, but still be serviceable a few years hence, when the fads of today have become the fallacies of yesterday. For this reason no effort was made in the Greenpoint Hospital to provide excessive light

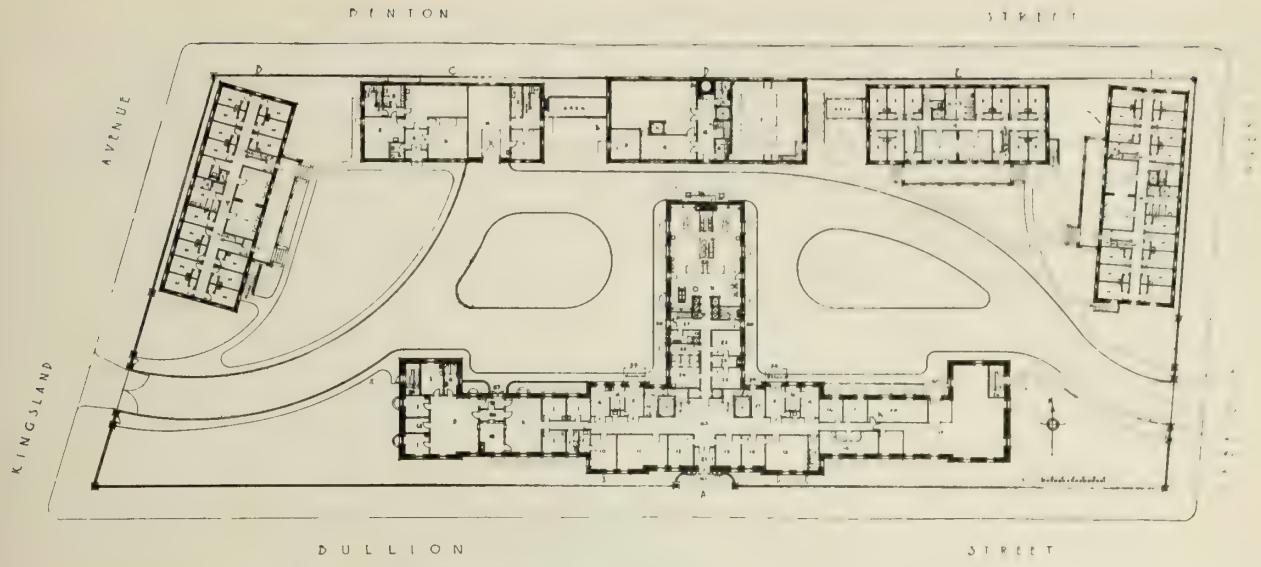

Fig. 4. Greenpoint Hospital—Basement plan of administration building.

BUILDING A—HOSPITAL.

1. Examination room.
2. Women's waiting room.
3. Men's waiting room.
4. Surgeons' room.
5. Receiving room.
6. Women's toilet.
7. Men's toilet.
8. Toilet.
9. Bath room.
10. X-ray room.
11. Board room.
12. Reception room.
13. General office.
14. Private office.
15. Office.
16. Linen room.
17. Sewing room.
18. Drug room.
19. Steward's department.
20. Passage.
21. Vestibule.
22. Help's dining room.
23. Pantry.
24. Meat refrigerating room.
25. Dairy refrigerating room.
26. Fire escape.
27. Entry.
28. Kitchen.
29. Laboratory.
30. Men's ward.
31. Women's ward.
32. Diet kitchen.
33. Convalescents' dining room.
34. Quiet room.
35. Nurses' toilet.
36. Bed room.
37. Superintendent's dining room.
38. Superintendent's sitting room.
39. Superintendent's pantry.
40. Doctors' dining room.
41. Men help dining room.
42. Women help dining room.
43. Head nurses' dining room.
44. Nurses' dining room.
45. Solarium.
46. Operating room.
47. Etherizing room.
48. Recovery room.
49. Surgeons' room.
50. Nurses' room.
51. Staff room.
52. Instrument room.
53. Sterilizing room.
54. Supply room.
55. Slop sink closet.
56. Air space under roof.
57. Dispensary entrance.
58. Ambulance entrance.
59. Help entrance.
60. Steward's entrance.
61. Main entrance.
62. Private hall.
63. Corridor.
64. Superintendent's bed room.
65. Sitting room.
66. Interns' porch.
67. Small ward.
68. Assembly room.
69. Class room.
70. Dressing room.

BUILDING B—MEN HELP.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Corridor.

BUILDING C—MORGUE AND GARAGE.

1. Autopsy room.
2. Morgue.
3. Chapel.
4. Waiting room.
5. Toilet.
6. Garage.
7. Work room.

BUILDING D—POWER HOUSE AND LAUNDRY.

1. Boiler room.
2. General laundry.
3. Disinfecting room.
4. Receiving room.
5. Toilet.
6. Hall.

BUILDING E—WOMEN HELP.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Corridor.

BUILDING F—NURSES' HOME.

1. Sitting room.
2. Bed room.
3. Toilet.
4. Kitchenette.
5. Corridor.

in wards where a subdued light is often more desirable than a glare; nor has any effort been made to have expensive and nondurable iron and glass construction in the solariums, where ample sunshine comes through the grouped windows which extend from floor to ceiling. And for the same reason the problem of heating and ventilating, so generally discussed and so frequently exaggerated in importance, has been reduced to its simplest form. The heating is done by steam radiators under windows, controlled by valves at each radiator. Ventilation is by the natural method of opening the windows, except in the main kitchen, diet kitchens, operating rooms, and all rooms where patients sleep. In these automatic ventilation, in addition to the natural method, is insured by admitting fresh air through holes in the outer wall back of radiators and withdrawing the foul air through registers at floor and ceiling level. Large heating coils in the towers on the roof, which are connected by vent ducts with all registers, keep the air moving. By this means good ventilation is assured in the places where it is most essential, and still there is no expensive machinery to get out of order, no complicated plenum system that is upset by the opening of a window, and no automatic control that prevents the individual occupants of the rooms from having any temperature they like.

For the same reason, in a hospital where patients remain but a short time and are supposed to be sick enough to stay in bed and glad of a quiet place out of the glare, no balconies, which would only serve to shut out the sunshine, have been built off the wards. One ample roof garden is provided, however, for the convalescents remaining for a longer period at the hospital.

Covered passageways have been omitted, it being an unnecessary expense both in first cost and maintenance in a hospital where the far greater portion of the work is in the main building. Of course an ample pipe and power tunnel at basement level connects all buildings.

In appearance a hospital should neither "scream" its purpose nor conceal it. There is no good reason why it should not have "style," and

be based on architectural precedent like any other building, but it should not be elaborated until it resembles a theater nor be simplified until it looks like a factory. Rational plan, simple construction, an honest use of materials, a careful study of proportion consistent with practical necessity, and the development of silhouette in keeping with the existing forms—these are the principles that make for good appearance.

In Greenpoint the materials on the exterior are limestone for the first story and a light buff tapestry brick above, green tile roofs, and copper towers. Proportion, form, and spacing of window openings give variety to the treatment of wall surface. The silhouette of the building is the natural one that results from the plan scheme. No sacrifices are made for architectural effects, but a few points of interest have been accented, such as the main entrance, the open loggia under the roof along the center of the building, and the towers, which simply screen the outlets of the ventilating ducts.

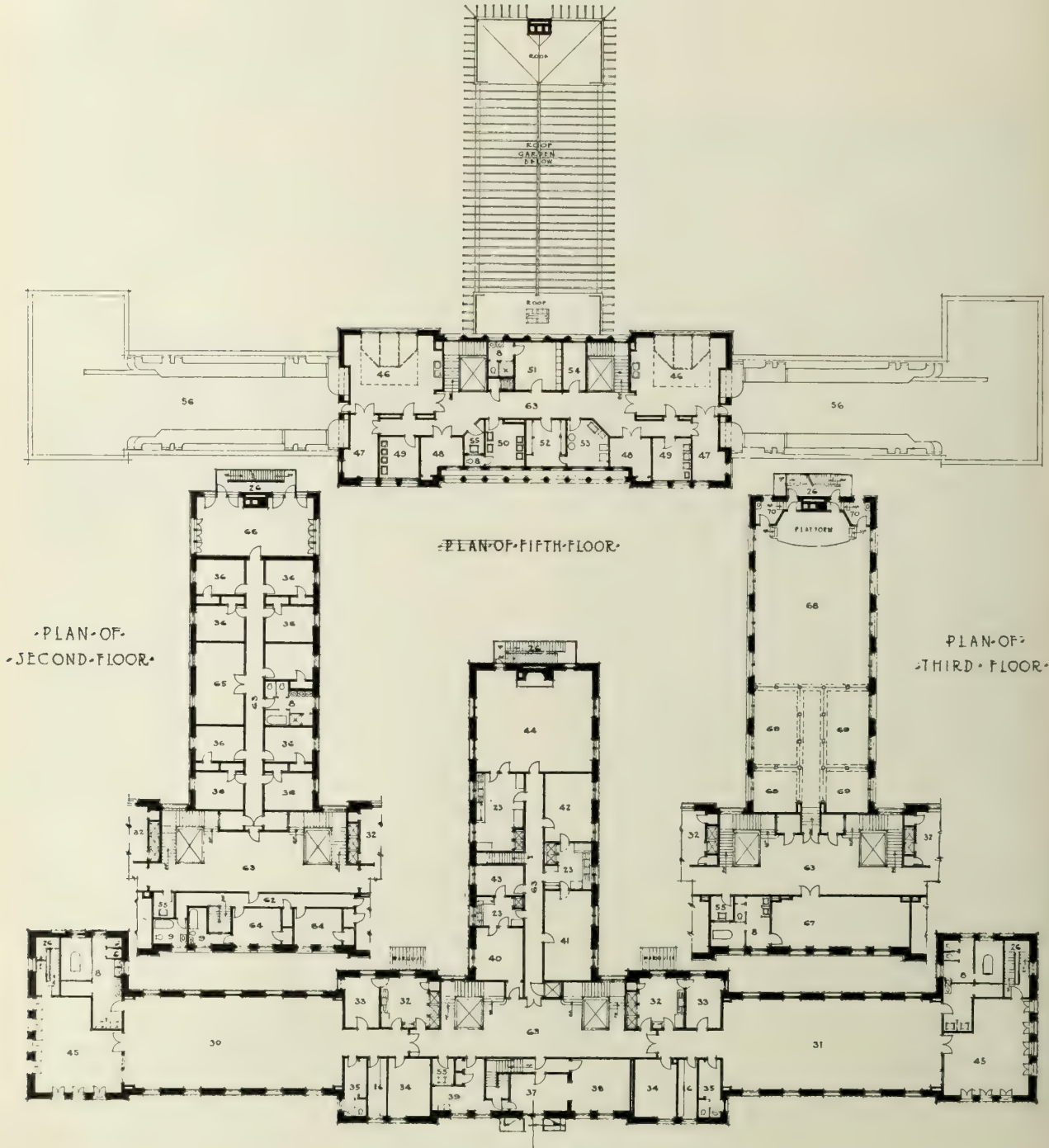

Fig. 5. Greenpoint Hospital—Typical floor plan.

The cost of hospital buildings goes through as wide a range of figures as the cost of a dinner, and nothing is more deceiving than the frequently quoted basis of comparison, the "cost per bed." The cost per cubic foot is a better basis, if made exclusive of equipment, and even this method is not safe until the proportion of floor area actually available for use (exclusive of corridors, stairs, elevators, and other means of circulation) to the total floor area is considered. The real basis of comparison should be this cost per square foot of actual available working space, because it is solely to secure this working space that the hospital is built.

Greenpoint, considered as a unit, with grounds, walks, grading, paving, sodding, and fence, counting all buildings complete, with all permanent fixtures and special hospital fixtures in place—in fact, everything ready for occupancy, except beds, tables, chairs, window shades, blankets, linen, food, dishes, and silver, and instruments in laboratories and operating rooms—totals in cost, $716,500.

Cost per bed (250 patients)	$2,866.00
Cost per cubic foot	.281
Cost per square foot (total floor area)	5.37
Cost available area (exclusive of walls, partitions, corridors, stairs, elevators, etc.)	7.91
Proportion of available area to total area	.67 percent

These figures tell their own story, no matter which basis is taken. The buildings are absolutely fireproof throughout, and have every detail of modern sanitary hospital construction. Nothing has been omitted that careful study and long experience could suggest as necessary.

This group of buildings is owned by the city of New York and built by a city department. Can the private institution make as good a showing?

THE PURCHASE, PREPARATION, AND SERVICE OF FOOD SUPPLIES.[1]

Specially Trained Dietitian a Prerequisite to Good Food Service—Supervisors and Nurses Important Factors—How to Buy Foods With Greatest Economy.

By ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICHIGAN.

PAPER VI.

IN every hospital, whether large or small, there is no one factor that contributes more greatly to its general success or failure than the matter of diet—not only the actual diet of the patients, but that served to every person connected in any way with the institution. It is probable that in no one department of hospital life have greater changes and improvements been wrought of recent years than in their various dietary departments. In planning a hospital, the location of the kitchen, with all of its auxiliary departments, is of the greatest importance. The kitchen itself should be large, well ventilated and lighted, and the working equipment arranged with a view to saving the time and strength of those doing the work.

There are many labor-saving devices for this department that are valuable, not only because of the time saved, but because of the fact that they prevent considerable handling of food supplies, which is always most desirable. Arrangements must be made in some way for the rapid and convenient transit of hot cooked food from the kitchen to every part of the institution, and this is one of the greatest problems that all hospitals face. The advance of medical science, teaching, as it does, the great importance of correct diet in the treatment of disease, shows us the necessity of a system in connection with our institutions that will insure to our patients correct diet, served in the most appetizing and nourishing manner.

We employ a graduate dietitian to take entire charge of this most important work. The experiment was tried of employing a practical housekeeper for this department, but was not successful, special training being found essential for a broad, comprehensive plan of work, and special knowledge required as to dietary values.

Our kitchen is a model in many ways, both as to equipment and convenience. It is in our service department, and connects with the main administration building through a broad basement corridor. This location, being outside of the hospital proper, reduces to a minimum the problem of the smell of cooking food, which is usually such a trial in the small hospital. There are three dumb waiter shafts along the main basement corridor—one in the center and one at each end. These dumb waiters connect directly with every diet kitchen or serving room in the institution, and all food is sent to the wards in this way.

Our kitchen occupies the full width and height

[1]This is the sixth of a series of papers on the internal administration of a small hospital. Last month, "The Housekeeping Department;" next month, "Drugs, Medicines, and Surgical Supplies."

of the service building, and has large windows on each side, with direct ventilation through the roof. Connecting conveniently with it are the special diet kitchen, bakery, dining rooms for the male and female help, cold storage department, refrigerator room, pantries, and the vegetable cellar.

Our dietitian is responsible for the purchase and preparation of all food supplies. We expect her to be the judge of food values and prices, and hold her responsible for all work connected with this department. In this, as in all departments, we endeavor to keep the work on a systematic basis, and in no department of the institution is system more essential.

All staple articles are purchased wholesale in quantities carrying us not less than a month, and certain standard articles—such as canned goods, sugar, rice, and general household supplies—are purchased in sufficient quantity to serve for three months. We have a large, well-lighted store room which we keep entirely for these supplies.

Butter and eggs are ordered weekly, these orders varying with the census of the hospital. We have frequently been able to make very satisfactory contracts with poultry raisers for our fresh eggs for the year at a settled price, and also buy considerable of our poultry from these people.

Green vegetables and perishable goods are ordered each day as required. The economic purchasing of this class of goods is one of our greatest problems, as there is no market center in this city, and the green groceries on which we have to depend are so scattered that it is most difficult to get comparisons as to prices and values without the loss of a great deal of time.

We have done considerable experimenting regarding the purchase of meat, and have finally decided that, in our case at least, the greatest economy and satisfaction are obtained by ordering daily the exact cuts and amounts of meat required. In the large institution, where the quality of the food served throughout the house can be graded, undoubtedly it is much greater economy to purchase wholesale and in large amounts. Our experience, after testing both ways thoroughly, is that in an institution the size of ours the wholesale purchase of meat leads to unnecessary wastefulness and extravagance. The extra work of cutting and preparing meat for use increases the work of the kitchen force, the diet as a whole is not so satisfactory, and the meat bill at the end of the month is as high, if not higher. We purchase entirely of one dealer, get a special price on all cuts, and have excellent service.

We have recently built a vegetable cellar in connection with our main kitchen. This enables us to purchase in advance the entire stock of vegetables required for the winter, which is a great economy and convenience.

The plan we adopt for the storage of vegetables is to keep them entirely in crates, which were built purposely for our use and are collapsible when empty. By the use of these crates we avoid having to use toward the end of the season those vegetables from which the best have been constantly selected. This is what generally occurs when bins are used. The crates, as emptied, are folded and packed on one side of this vegetable room, which is kept at a temperature of 4 degrees above freezing.

For all purposes in the hospital, except cooking, we use certified milk. While the price is considerably higher than that charged by the creameries, it would be a poor form of economy to sacrifice the physical welfare of patients and babies to any mere mercenary consideration, and we all realize that good milk and cream are the greatest necessities in the diet of the sick. All our milk is received bottled, and is kept in its own special section in our refrigerator room. This refrigerator room opens off the main corridor leading from the kitchen. The refrigerators have been built in, and are divided into special sections or compartments. One is kept for fruit and perishable supplies, one for butter and eggs, one for milk, while the meat is kept in a separate refrigerator built for that purpose.

With all regular food supplies we require the dealer to send a slip stating amount or weight of each article. All food is weighed or checked off as received by the dietitian, or, in her absence, by the first cook. The slips are checked and sent to the bookkeeper for comparison with monthly statements submitted. Any food supplies which are not satisfactory or not up to the proper standard are rejected by the dietitian, and the dealer furnishing same notified to remove them and credit to our account.

We make all cake, bread, and pastry used in the institution, and bake every day except Monday, when we purchase our bread for the day. Stale bread is all utilized for croutons, bread crumbs, dressings, and occasional bread puddings.

We purchase only a good quality of food, realizing the ultimate economy of so doing. We also endeavor in every way to have the preparation and service of our food up to the same high standard.

All ordinary cooking and baking are done by one competent first-class cook with a good second cook and a kitchen helper, the work of the latter being largely that of cleaning and dishwashing.

For special diets we have a small well-equipped

diet kitchen, off the main kitchen, in which the pupil nurses do all the cooking, under the direction and supervision of the dietitian. All special diets are prepared here, and also all broths, soups, salads, desserts, and ice cream.

The daily menu for the house is arranged in advance. Each morning a copy of the menu planned for the following day is placed on the superintendent's desk for her approval. This is checked and returned to the dietitian, who places it on a bulletin board in the nurses' dining room. By this simple arrangement head nurses and specials can know in advance what the diet is to be for the following day, which enables them to make out their diet requisitions and special orders with much more judgment and economy than if they were in ignorance of the menu planned until the hour of serving. Each day when the fresh menu card is placed on the bulletin board the one for the preceding day is removed and filed away for future reference if needed. A copy of the menu is also placed in the kitchen each day for the information of the cook and to facilitate the work of serving.

Every evening the head nurse in each ward makes up her diet requisition for the following day. These slips she makes out in duplicate, specifying the entire number of patients in her ward, the number of each on regular, light, fluid, or special diet, and the amount of bread and butter, milk, eggs, lemons, etc., required for the next twenty-four hours. These slips are sent to the special diet kitchen, and the diet list for the following day made up from a summary of same. One set of the slips is kept in the special diet kitchen for the guidance of the nurse there in making up and sending out special diets and orders; the other set is placed in the general kitchen for the information of the cook in sending the correct amount of cooked food to the various parts of the institution.

Staple articles—such as bread, eggs, and other daily supplies ordered in these lists—are placed in special pans and kept for that purpose, and sent up to the ward on the dumb waiter with the breakfast each morning.

The dietitian herself estimates the amount of food required in the kitchen each day for the menu planned. At 7:15 each morning she opens the large store room and gives the cook all supplies needed for the day. The cook brings a specially made light truck with her, which is kept in the kitchen for her personal use in handling and carrying supplies.

At this time the ward maids also come to the store room for supplies needed in the wards for the day. They bring with them a requisition, signed by the head nurse, and also the containers for such articles. Staple articles and cleaning supplies needed throughout the house are given out at this hour.

Immediately after breakfast is served each morning the dietitian and cook together make a careful inspection of all left-over and unused food, arranging to have it utilized immediately to the best advantage. We endeavor by careful planning and judicious purchasing to avoid having large amounts of food left over. A little thought and trouble in this line would spare many institutions the endless service of hashed-up food, which, as a rule, is so intensely disliked by most patients.

Connecting with every ward or serving room is a small, very completely equipped diet kitchen. Each of these diet kitchens has a steam table, with a gas stove attachment. This enables us to have our hot dishes ready for serving food the moment it is received from the kitchen and also to heat anything that requires it.

The food is served from the general kitchen in covered containers, which fit into the steam tables in the ward diet kitchen. These food containers have all been thoroughly heated in the main kitchen, which also has its large steam tables.

We have special trucks that were designed and built for our use, and which greatly facilitate the rapid serving of food. They are double-decked, strong, light, and noiseless, and can be turned in their own length. The food containers are placed on these trucks, rushed to the dumb waiters, and sent up to the wards, where they are immediately removed to the steam tables and kept hot until served.

The trays for each ward are set and ready for service when the food arrives. As our wards are not very large, and as the diet kitchen is centrally located, the trays can be quickly served as completed while the food is hot and appetizing.

By sending the food to the ward in which it is to be served, and having it again well heated if necessary before serving, much better service can be effected. A central serving room, in which all trays are served, is certainly a great convenience, but it is nearly impossible to send trays to distant parts of the house and keep the food hot in transit. We have found our ward diet kitchens, with their steam tables and heating equipment, invaluable in this work.

The coffee for the institution is made in the general kitchen and sent to the various parts of the house in coffee pots, in which it can be heated before serving. All tea is made in the ward diet kitchens in the little individual tea pots, and served immediately. Eggs served to patients are always cooked by the nurses in the ward diet

kitchen, and most of the toast used is also made there.

For service in our private rooms we use the large oblong white fiber trays, which are both light and noiseless. These are placed on the regulation bedside table, which can be swung across the bed or placed at one side, as preferred. In the general wards we use the wooden trays, with low back and sides and short feet. These can be placed across the bed for a convalescent patient or on a bedside table. Children or helpless patients are always fed by the younger nurses.

We are very careful about the appearance and cleanliness of linen used on trays. Even in the general wards each tray has its cover and its service napkin. These are changed daily, and oftener if necessary. The ward china is of plain white, while the decorated china is used in the private rooms.

The food served in the nurses' dining room is sent up in the same manner as that sent to wards, and the service in their dining room is individual, which insures their having hot and appetizing food. All table linen in the nurses' dining room is changed three times weekly, or oftener if necessary. Table napkins are changed each day.

After the service of the meal is completed, all food remaining in the containers is sent down from the diet kitchens or serving rooms on the dumb waiters and removed to the general kitchen, where the cook takes care of it and puts it in a special section of the ice box until the next morning, when it is utilized in some way during the day. Food returned on trays is placed in a special container, and sent down to be disposed of in the garbage cans.

A very important point for consideration in the matter of satisfactory diet lies in securing all possible variety and avoiding having a set schedule for the meals of a week. Could anything be absolutely more discouraging than the definite certainty that the week would be ushered in on Monday with roast mutton and end with equal certainty on Saturday with all the delights or horrors, as the case may be, of a boiled dinner.

After all, the most important work in the service of satisfactory food rests largely with the nurses themselves. They must be impressed with the importance at all times of serving correct diet in a dainty and pleasing manner. The head nurse in the ward should be taught that supervision of tray service is one of her important duties, and one not to be relegated to the younger nurses, but performed under her immediate jurisdiction.

FIRE PROTECTION AND FIRE DRILLS FOR HOSPITALS.

Every Institution for Care of the Sick Should Be Carefully Organized for and Drilled Against Fire Emergencies.

By C. W. HEJDA,
ENGINEER AND CHIEF INSPECTOR BUREAU OF FIRE PREVENTION AND PUBLIC SAFETY, CHICAGO.

"HOSPITAL efficiency" and "hospital progress" are two topics which are commanding national attention, and it is gratifying to know that the question of fire drills is included in both of these subjects. Fire drill, which goes hand in hand with the present-day "fire prevention" movement, is one of the most important safety measures known to modern times.

Owing to the vast differences in hospital buildings in respect to construction and general arrangement, it is a difficult matter to set up any specific rules and regulations for instituting and conducting fire drill exercises, as each hospital or similar institution presents its own individual problem. The organization of their staffs, interns, nurses, and employees are, however, quite similar, and the same general plan can be used as a guide. Before taking up the question of the organization, a few words on the construction of the buildings and their fire protection would not be amiss.

In general, all buildings should not only be of strictly fireproof construction, but should be divided into as many sections as practicable. The dividing walls should be of masonry or concrete not less than 12 inches thick, and all openings in these walls should be protected by standard steel or metal clad doors. Subdividing in this manner applies to buildings of any construction, and it is readily noted that a fire starting in any section can in all probability be confined to that particular section in which it starts, and patients can be moved to adjoining sections without being exposed to the outside air. All stairways and elevators should be protected by strictly fireproof inclosures. Good, substantial stairway fire escapes of sufficient number and ample width should be installed. All exit doors should swing outward, and all means of egress should be properly indicated by signs and red exit lights.

The buildings being prepared to afford a rapid, safe, and easy egress to the occupants, the next step is the installation of an efficient and reliable fire alarm system. Although there are numerous

systems on the market, the one chosen should be simple in construction and of the closed circuit type, which is constantly under test. The boxes should be well distributed and mounted in easily accessible locations. Electro-mechanical or other suitable gongs should be installed in the office of the warden and in the nurses', interns', and employees' quarters, and small bells, buzzers, or visual signals should be installed at the head nurses' desks in the various wards.

The hazardous portions of the buildings should be protected by automatic sprinklers. Standpipes with sufficient 1½-inch unlined linen hose, and kept under constant pressure by automatically operated fire pumps, should be installed. In addition to this, reliable portable fire apparatus, such as chemical fire extinguishers or hand pumps, should be well distributed throughout the buildings.

Next comes the organization of the fire brigade and exit drill corps. Great care should be exercised in the selection of their members, as the efficiency of the fire drills will depend largely on the organization. The following may be used as a guide: chief of brigade, warden; assistant chiefs, assistant warden, night warden, fire guards if any; standpipe corps, three men; fire pump operator, one of the power plant engineers; portable apparatus corps, six or eight interns; carrier and cart corps, as many men as available; nurses' corps, all available nurses; inspector.

The chief of brigade should be in full charge of both divisions, or, in the event of his absence, the assistant chief on duty should be in charge. The standpipe corps should consist of at least three men—one for the nozzle, one at the valve, and the third to help out the other two. A sufficient number of simple canvas carriers and wheel carts should be available, so that patients can be readily moved. The nurse corps should be on hand to prepare patients for removal and to quiet excitable patients. The inspector should be a reliable man, and should inspect the buildings and fire apparatus, so that no defective conditions will be allowed to exist. The brigade and exit drill corps should be governed by a fixed set of rules, and rigid discipline should be enforced at all times. Drills should be held at least twice a month, and should be practiced as near to actual fire conditions as possible.

Rules may be drawn up somewhat along the following lines:

NOTICE—IN CASE OF FIRE.

The person discovering the fire will immediately turn in an alarm by (give here the directions for operating the fire alarm boxes).

In the event of an alarm being sounded:

1. The nurse in charge of the affected ward and one assistant will immediately operate the fire extinguishers available.

2. The fire brigade and the exit drill corps will respond promptly and report directly at the scene of the fire.

3. The standpipe corps will operate the standpipe hose.

4. The engineer will station himself at the fire pumps.

5. The portable apparatus corps will act on order from the fire chief in charge.

6. The carrier and cart corps will mobilize as many carts and carriers as necessary at the endangered ward.

7. The nurses' corps, quietly and without giving cause for any unnecessary alarm, will prepare the patients for immediate removal. (A blanket placed over each patient is considered adequate as a general rule.)

8. Patients will be placed on carts and stretchers and taken to the nearest ward out of the danger zone.

9. The head nurse of the threatening ward will be in control of fire operation until the arrival of a commanding officer, after which he will assume complete charge.

10. Until the arrival of the city fire department, all hospital attaches and employees will be in charge of the interest and well-being of the patients.

11. All attached persons and employees who refuse to respond to a fire alarm call, and who fail to provide satisfactory reason for such failure, will be subject to suspension or dismissal from the service.

As stated before, each institution will present its own problem. Nevertheless, with the foregoing suggestions, together with the use of common sense, efficient fire drills can be obtained, which, if diligently and earnestly exercised, will result in the proper safeguarding of human life and property.

The American Institute of Banking, which has a membership of 15,000 bankers, plans to establish a sanatorium somewhere in the West. Locations in Colorado have been considered. The institution will be devoted largely to the treatment of nervous break-downs and kindred afflictions.

The city councils of Philadelphia at their last session appropriated the necessary funds to complete a power plant at the new Home for the Indigent on the outskirts of the city. When this institution is entirely completed, all the indigent now quartered at the Philadelphia General Hospital will be sent to the new home, thus permitting the Philadelphia General Hospital to expand.

MOVING PICTURES IN MINNESOTA STATE INSTITUTIONS.

With Careful Selection of Subjects, These Entertainments Are Made Useful as Well as Enjoyable.

By MIRIAM E. CAREY,
SUPERVISOR INSTITUTION LIBRARIES, MINNESOTA STATE BOARD OF CONTROL.

MOVING pictures have passed the experimental stage in the state institutions of Minnesota, and may be said to have been accepted as part of the equipment necessary for efficient service. Not only are moving pictures "the most successful and easily obtained entertainment we have had" (to quote the words of Dr. R. M. Phelps, of St. Peter Hospital for the Insane), but they are believed to provide an educational medium of great value.

For four or five years moving pictures have been in occasional use on holidays and at other special times in several of the state institutions, but within two years eight of these have decided to add the "movies" to their permanent equipment. The pictures are shown at intervals ranging from two or three times a week, as at the Rochester State Hospital for the Insane, to several times a year at the School for the Deaf in Faribault. The St. Peter Hospital for the Insane has a plan for sixteen or twenty shows during eight or nine months of the year. The Boys' Training School at Red Wing uses them every ten days, and the State Reformatory at St. Cloud twice a month.

Several of the institutions have their own machines, and have them operated by some "mechanical genius" on their several staffs or by the engineer; others hire the whole local plant—machine, films, operator, and sometimes the musician. Most of the institutions that have their own machines hire the films; so, if the question of the comparative cost of owning or renting is raised, it would be hard to determine which is the cheaper. Taking into consideration the danger of fire and the need of having a capable operator, as well as the fact that up to now no machine has been presented as ideal, many of the superintendents have felt justified in waiting until what one of them calls a "fool-proof" machine shall have been invented before buying. The estimated cost of hired shows every two weeks for eight or nine months is a little more than $200. One institution pays $7.50 for three films as one entertainment lasting an hour and twenty minutes.

All the institutions select the class of pictures which best suit their purposes. It has been found necessary to do this in order to avoid the risks of getting material that may tend to degrade morals, and also to secure those pictures that will give the most lasting satisfaction. This regulation of the films has not proved a difficult matter to manage. The state prison's method is to let the film people know a week or so ahead of the date on which the pictures are to be shown, suggesting the kind of pictures desired, and those wanted are usually obtained. Travel pictures and comedy films seem to be the most popular. To quote from the superintendent of the state reformatory:

"We are attempting to show pictures of an educational nature, with enough clean comedy so as not to make the pictures irksome. Tonight we give an entertainment, and the three reels are, 'Cutting California Redwood,' 'More Rare Specimens and a Few Old Friends, New York Zoological Park,' 'Beautiful Valley of Toronto,' and 'All on a Summer's Day.'"

The pleasure the moving pictures afford the whole population of an institution cannot be overestimated. Officers, employees, and inmates are highly entertained, refreshed, and given something different to think about. The following are some of the comments on this phase of the subject:

"It is the best amusement that we have ever attempted in our institution, and brings out from 50 to 60 percent of our patients. We think the results are highly beneficial. As compared with dances, we find the moving pictures reach a much greater number of patients."—Dr. Kilbourne, superintendent Rochester State Hospital for the Insane.

"These entertainments are more popular than anything else we have for our children."—Dr. Tate, superintendent School for the Deaf.

"The patients enjoy the dances very much, but these get a little monotonous toward the end of the year, so I think they would really get more pleasure the year round from moving pictures."—Dr. Welch, superintendent Fergus Falls State Hospital for the Insane.

"All of the inmates and a large part of the employees attend these shows. All of the pictures are enjoyed."—Superintendent Fulton State Training School for Boys.

At the state prison practically all the population attend the shows, which "seem to be as popular as, if not more popular than, any other form of entertainment we have provided, unless possibly the annual Thanksgiving show given by a theatrical troupe from St. Paul."

At the state reformatory all the inmates attend these entertainments. The selection of the films is left to the superintendent, who does not permit questionable pictures. "I believe," says Superin-

tendent Reed, "that moving pictures can be made a very valuable form of amusement for an institution of this character."

The Minnesota institutions have also been buying phonographs and victrolas for upward of ten years for the former and with increasing frequency for the latter. Both instruments have "made good" as means of diversion, recreation, and even pathological benefit.

Before moving pictures were invented or victrolas were dreamed of, books and periodicals were considered the most feasible means of recreation possible in institutions. This still holds good for the somewhat limited class to which books appeal. The libraries of the Minnesota hospitals are considered valuable from the standpoint of recreation, and are selected and administered with that end in view.

In the administration of a hospital library, location is a most important factor. If the books are kept in an attractive, centrally located place, to which the patients can go in person, several things have been accomplished besides the mere housing of books. The patients enjoy their little journey from the wards, and appreciate the opportunity to select the book they prefer. If the room is furnished in such a way as to afford an opportunity to take a chair and read a little, so much the better.

In Minnesota it has been found practical to have patients act as librarians. This affords a stimulating occupation, which acts almost as a tonic on the patient and which answers the purpose of keeping the library open regularly and systematically. This works very well in Minnesota, because the responsibility of the administration of the libraries is put on a supervising librarian, who has charge of the records, classification, and other details of management, and who stands ready to help the patient at any time. A standard system, resembling as much as possible that used in public libraries, has been introduced, not only for its value as a system, but also because the work entailed in keeping up the system is believed to be beneficial to the patient-librarian.

While recreation is the purpose of the hospital library, in institutions containing schools, including the prison and the reformatories, the function of the library is educational and ethical primarily, rather than recreative. The selection of books for the several institutions must take into consideration the object of each library. Great precision of choice is required in order that the books in the different libraries may be tools to help work out the problems peculiar to each institution.

Books and periodicals, moving pictures, phonographs and victrolas—these and other means of recreation and uplift are in use in all of the Minnesota institutions, in varying degrees. Without these additions to the scheme of things, the routine of life would lack some of the factors essential to complete success.

Since the above paper was written the following letter was received from Dr. A. C. Rogers, superintendent of the Minnesota School for the Feeble-Minded and Colony for Epileptics:

Your letter remained unanswered because we were trying to fix the date of the purchase of the first moving picture apparatus which this institution ever possessed. We do not seem to find the record, but I know it was the season following the Omaha Exposition. At that time we purchased about one-half dozen films, and they were of great interest to the children. After awhile the type of films changed so that we could not secure those that would fit the old apparatus. A small Edison machine was then purchased, but it was never very satisfactory, and we gave only a few exhibitions with this machine. Of course of late years the whole system of "movies" has been standardized, and we have for two years owned one of the Powers machines and aim to give an exhibition twice a month. The only difficulty we experience is in securing the right kind of subjects. The houses who manufacture films, and there are several, furnish leaflet catalogues giving the firm number and the name of the film. These names, however, are not sufficient indication always of the character of the illustrations. Where we have been unable to see the films in advance or to talk with some one who has seen them, it has usually been most satisfactory to explain to the dealers the general character of the films we desire and leave the selection to them. The rental price depends on two things—first, the general character of the film as to expense of production, etc.; second, its age. The films are sent out with instructions as to date of release, and no films are permitted to be shown before the date of release, so that any given subject is presented as a new subject at the same time all over the country. After any given subject has had a run, it can be rented at a much lower price than could have been had at first.

We are usually able to get three 1,000-foot films, enough for one evening's entertainment, at a rental of about $6 per evening. These have to be definitely rented for a given date, because they are usually booked for some other place the succeeding day. There is no restriction, however, on the number of times the films are used on the day for which rented.

There is nothing that appeals to our children and holds their interest like the "movies." At least three-fourths of our population would enjoy the "movies." Owing to the limitations of our assembly hall, however, we can entertain only a little less than one-third of the population at one time. We sometimes give a matinee and evening exhibition, however, and in this way give the benefit to a larger number of children. The machine is operated by our electrician.

As is the case with children elsewhere, the more excitement there is manifested by the pictures, the better the children like them. We try, however, to eliminate subjects in which there is carousing, drinking, flirtations, elopements, etc. Weekly current history films, high-class plays, actual life and activity in nearly every form, with the exceptions as noted above, are proper and interesting. The films technically known as educational films are nearly all of them proper and satisfactory.

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Disreputable Hospitals.

There are many hospitals in this country that are a disgrace to everybody connected with them. Some are immoral in one way, some in another, and some of them are immoral in their very essence and in every way. Some are notorious abortion "parlors," some of them have a reputation for the immorality of the training school, some are distinguished by a reputation for shady transactions in their financial dealings. Fortunately these institutions are the exception and not the rule, but they infest every community of considerable size.

Of course the public generally is responsible for disreputable hospitals, because if they did not patronize them they would not exist, but the public is not always discriminating, and individuals in the community do not always know what is best to be done about their own cases, and must rely on their physicians to guide them properly. So that out in front of the public stand two definite factors that are responsible for disreputable hospitals—first and foremost, members of the medical staff, who not only know what a decent hospital is and what a disreputable one is, but they also know that without their support such hospitals could not exist; the second responsible factor is the trustees. Trustees, as a rule, are not very intimately informed about the doings in the institution over which they are supposed to preside, although there are generally two or three or more members who are posted, and without whose connivance disreputable institutions could not remain so.

There is a definite code of ethics in the medical profession that bespeaks decency and honor in its membership concerning professional matters, but members of the medical profession belong to the most intellectual class of people. As a rule, they are what we call gentlemen and ladies. They know what correct conduct is, and they know what personal morals mean. It is true that it is a difficult thing for a member of the medical profession to make very much headway in the profession unless he or she is connected with a hospital, but a disreputable hospital never helped a physician and will always hurt. It will be far better for a physician to have no hospital connections at all than to be associated with one known to be immoral.

Society is divided for different purposes into various classes; we sometimes divide hospitals as large and small, as general hospitals and special hospitals; but there is another classification—good hospitals and bad hospitals—and every hospital in this world comes under one of these two heads.

Attending hospital staff members, men and women, who strive for decency, and who have ideals and hopes and ambitions, would better look into the question of the morals of the hospital with which they are associated as well as its efficiency in professional directions.

There are two alternatives for a medical person who finds himself or herself associated with a hospital of questionable virtue. One is, and the first one, to raise the biggest kind of a row with the board of directors and with those who are in the habit of giving toward its support, and in this way, try to correct the morals of the institution; if this cannot be achieved, then the other alternative—get out, and persuade all the other decent people in the institution to get out.

Hospital trustees are anxious for the material success of the institutions over which they are supposed to preside, and a board of directors will think twice before deciding to continue a course of action that it has been forewarned is to lead to the abandonment of the institution by the medical men necessary for its success. So that, in a final analysis, medical men in hospitals have it within their power to correct the morals of any institution with which they are connected.

Nearly every disreputable hospital that this present writer knows about, and he knows a good many, has on its medical staff at least a few men

who are respected in the community, and who by their course of conduct in life are entitled to that respect; but this present writer does not know one single professional man connected with a disreputable institution who is not hurt instead of helped by such connection.

The initial thought that inspired the writing of this apostrophe against disreputable hospitals had for its object the attempt of certain hospitals to lure into their training schools innocent, conscientious, and honest young women. Some of them ought to be convicted of a violation of the Mann white slave law, and their directors ought to be in the penitentiary.

Is it not time that members of the medical profession connected with hospitals that are here referred to should think of these conditions and cure them in one of the two ways suggested?

Are Small Hospitals Slighted?

Every once in awhile we hear some hospital worker, who happens to be administering the affairs of a small hospital, ask why it is that the American Hospital Association ignores or slights the small hospitals, and some most efficient hospital workers are lukewarm in their fealty to the association because they feel that this is so. Let us see whether the facts bear out this judgment.

There are fewer than 200 hospitals in this country that have more than 200 beds each. Two years ago there were 6,500 hospitals, all told; so that only one-thirtieth of all the hospitals belong to the so-called "large hospital" class. Is it a fair presumption that these few institutions could dominate so many? The American Hospital Association is made up of members, each of whom has precisely the same right to vote on any subject, and every vote has precisely the same value.

Does any member of the association remember an occasion, at any convention, when anyone was refused the floor because he or she belonged to a small hospital? Or when any speaker received anything but most respectful attention, whether he or she represented a small or large hospital? Can any member point out any instance when the then president showed any slight of the small hospitals in committee assignments?

At Boston there was a section on small hospitals; the planning of this separate section was an exceedingly tactful piece of work on the part of President Washburn and his executive committee, and had for its object other things besides the greater expedition of business.

The fact is that the thinking members of the association have known for a long time that the superintendents of small hospitals have seemed disinclined to enter into the discussions, and backward about expressing themselves on their feet in the meetings. It was felt that if some meetings could be held in a section definitely designated as of the "small hospitals," the members would overcome this diffidence and that they would eventually take courage to pick up the work of the conventions and go forward with it, forgetting themselves as individuals, and considering themselves as parts of a big, working whole.

The experience in the section on small hospitals at Boston developed the correctness of this assumption. On the morning when the section on small hospitals first convened, there were perhaps 300 members present, while at the same time, in the section designated "large hospitals," there were less than twenty people. The transactions of the meeting will show that, while in the "large hospital" session of that morning there was discussion of the papers by less than half a dozen persons, in the "small hospital" section sixty-five pages were occupied with the proceedings, and nearly fifty persons took part.

Administrators of the small hospitals are in great need of the experience and counsel of those in charge of the large hospitals, because, as a rule, the large hospitals have more money to try out new things and more expert help to give proper direction to new and empirical practice in various directions. The small hospitals should have the benefit of these expenditures and these experiences, and a capable administrator can profit in many ways by these experiences as they are told at the conventions in papers and discussions.

But the large hospitals need the smaller hospitals even more. The administrator of the large hospital can never be so intimately in touch with details of his work, because he has more ground to cover in his institution's activities. It is true, he has his heads of departments, but there is in all heads of departments a lack of perspective; the department head sees things only from his or her necessarily narrowed viewpoint. The administrator in the small hospital is close to all his or her activities, and views things from the broader angle of a general service covering every part of the field, and so is equipped to give information on the working out of new practices which should be of inestimable value to the administrator of the large hospital.

So, why not each one chip in his or her share, the sum total of which makes up what we have come to call hospital efficiency? No one is sufficient unto himself, and the administrator of either a large or small hospital who is content to

sit down within four walls and assume to deliver the intellectual "goods" to his board of trustees, his medical staff, his public, and his patients, will very soon find that all these factors are combined to replace him with some one more closely in touch with what other similar institutions are doing.

Better join the American Hospital Association, and be a figure in the fight for better things in our great work of caring for the sick.

Record Forms in Hospitals.

It is a mistake for hospitals to load themselves down and complicate their routine practice with record forms that are never used. Not very long ago a certain piece of administrative technic was suggested to the superintendent of a hospital as an answer to his inquiry for the cure for an abuse that had crept in.

"Oh, we had a form like that when I came here," he said, "but I threw it out as one of many forms that had been instituted at various times and that were never used." In further explanation he stated that it was found almost, if not quite, impossible to get the people, from attending physicians down, to use any sort of record forms, and that the institution was then running with hardly a form in everyday use in a proper way.

On closer inquiry it was found that the hospital had changed superintendents frequently, and that each one had added new things without cutting out the old. One of the older employees, who had remained, by reason of unquestioned merit, through succeeding administrations, said, in a meeting held to discuss the matter of forms, that there was an excellent spirit in the institution, that everybody would be glad to have things done according to some well-thought-out system, and that everybody felt the hospital should be under better discipline and that real records should be kept; but the trouble had been that an untrained superintendent would come in and print up a lot of records which the older and better qualified employees knew were worthless; so they would not be lived up to; then another superintendent would add other forms of the same kind; eventually the hospital had got into a rut, and practically no forms were kept up. The doctors had even ceased to grumble about the lack of proper records of patients.

One may easily picture what sort of a hospital that was, and what kind of a training school, and what kind of interns, and the state of the institution's finances and accounting department. Nobody cared—what was the use of caring? *En passant,* things are different there now.

But the point to be made is that records are established to meet some real need, and whatever records there are should be lived up to. Some great executive once said, in insisting on the enforcement of a most unpopular law, "If it is a good law, it ought to be enforced; if it is a bad law, enforce it, so that the people who made it will promptly revoke it."

Hospitals should run true all the time. If there is no pathological work to be done, why make the sham of keeping records about pathology? If there are no special diets, why keep special diet charts? If histories of patients are not written, why have history forms? If the nurses have not sufficient time to keep the nursing charts on their cases, either cut them down and require less, or change the nursing conditions so that they will have time.

An unfilled record is a false record, and an institution that keeps false records, especially an institution to care for the sick, whose whole existence should be predicated on honor and conscience, should be closed down, and its sacred work placed in hands more fit to do it.

Would it not be a good thing occasionally for hospitals to canvass this problem—cut out record forms that are not needed and that cannot be properly used, and make some sort of effort to keep properly those that are retained?

The United States Public Health Service.

Unless one has the facilities and the necessary stimulus of personal or business interest to keep posted on health matters, one will hardly conceive of the immense amount of service, of the tremendous activities, under the new regime in the Public Health Service of the Government. Just for a sample: the service publishes a weekly bulletin of its current activities; in the week ending April 3 the following were a few of the matters in which the service was actually engaged: quarantine at Angel Island, California; leprosy in Hawaii, Oakland, and Washington, D. C.; rats and squirrels caught and examined in Venezuela, China, Zanzibar, and California for plague; spotted or tick fever in Odessa; cholera carriers at Honolulu; examination of rats and mongoose in Hawaii; quarantine officer's report from Debai, Arabia; plague in Amoy, Hongkong, and Shanghai, China, and examination of rats by Public Health Service surgeons; besides these, there are health reports from nearly every state in the union and from nearly every foreign quarter; there are papers in the bulletin prepared and

read by officers of the service on various health topics before scientific, civic, and governmental bodies in nearly every part of the world.

There probably was never a more efficient body of men got together in any capacity anywhere in the world than the personnel of our present Public Health Service, and our people should be filled with pride, especially in these days when it seems to be the approved fashion to graft on and exploit the public by every agency that has the opportunity.

Why Praise Texas?

In a letter to THE MODERN HOSPITAL, published on another page of this issue, Secretary Newton, of the Texas Public Health Association, calls attention to the splendid work his state is doing in the creation of public hospitals to meet the growing needs of the people.

Texas is a great empire all by herself. No one could breathe in the ozone of her broad prairies without wanting to go out and do things just to burn up the surplus energy. The state is big, her prairies are almost boundless, her gulf coast is long and brings the world to her door, her farms are kingdoms and every farmer a king. Texas has fought her own battles; her Alamos are the monuments to her heroic and independent spirit; she showed what she could do alone and unaided in the long ago past, and is as undaunted and unafraid today as when her sons and daughters dared the huge peril over her borders, and stood up victor in the fight.

How could Texas help doing things? The very air is full of action. But, having proved her metal in a thousand martial ways, she has now turned her swords into ploughshares; her sons and daughters are amazing the world with their accomplishments in the paths of peace and industry.

But if she has the courage to fight, and a strong arm for the protection of her hearths; if she has the brain and the brawn to lead in the arts and the industries, she also has a heart to sympathize with the unfortunate and an open purse to back up her sympathy.

Why should Texas be praised for building noble hospitals, and for taking care of her sick? She couldn't help it—she is Texas.

Items of Hospital Efficiency.

In the March issue of THE MODERN HOSPITAL appeared, in a signed editorial, the introduction to a series of eight papers on "Items in Hospital Efficiency," by John A. Hornsby, and was followed in the April issue by the second paper, "Hospital Pathology." It was the intention to have the third paper, "Hospital Physical Therapy," appear in this issue, but it was crowded out, and will appear in the June issue.

Our May Cover Design.

Our cover design for this month is an excellent illustration, in perspective, of the Elizabeth Steel Magee Hospital, a modern institution for women, at Pittsburgh, Pa. A detailed description of this institution, with illustrations, appears in this issue, and is well worth the careful perusal of everyone connected with hospital administration.

WHAT IS MUNICIPAL ISOLATION?

Health Commissioner of Chicago Argues for "A Hospital Free for All and Good Enough for Any."

The Chicago Medical Society, by its propaganda committee, has had under discussion for some months past the problem of isolation for patients suffering from the acute, communicable diseases. Dr. George B. Young, commissioner of health, has not been in entire harmony with the committee's views. Dr. Young's "slogan," as he calls it, has been "A hospital free for all and good enough for any." Dr. Young believes in one large central hospital for the time being, with the mental reservation to let the future develop a need for other hospitals in other parts of the city.

The propaganda committee believes in three hospitals, one for each geographical division of the city, and believes further that well-to-do patients should be admitted to private accommodation, should be charged regular fees in proportion to the luxuries furnished, and that they should be permitted to have their own private physicians to attend them.

This question of isolation is extremely important. It is undergoing some quite radical changes of late, due in part at least to our new viewpoint in regard to the technic of isolation. It is for this reason that Dr. Young's position is important. The following is a report, taken verbatim and published without change, of a statement by Dr. Young, made at a public hearing of the propaganda committee of the Chicago Medical Society on March 28th last:

ARGUMENT OF HEALTH COMMISSIONER YOUNG.

Where problems are under discussion it is a good thing to start off with a definition. It is very evident that the principal trouble about this matter is that there has been a very hazy idea in a great many minds just what we were talking about.

First, I want to combat with all the force I can, and I will go on combating it as long as I am in a position to do so, the idea of this talk about charity patients. This communicable disease proposition is a community proposition. The community does not hospitalize a child for the protection of the child, except as a secondary proposition. Humanity decrees that we shall provide for cases that cannot be otherwise cared for, but it is not for that reason that we want an efficient hospitalization for contagious diseases. In London, where 95 percent of the scarlet fever cases are hospitalized, the chances of a child growing up without scarlet fever are nine times as great as in Chicago. The hospital is for the protection of the public—not for the protection of the individual sick patient. That is what a contagious disease hospital is for in this munici-

pality. It is a duty which the municipality owes to itself, to provide protection. It says to the individual, "You have something of which I am afraid; therefore you must be subjected to certain restrictions." Very good. Now, if the individual is in a position to bear the burden of those restrictions without any special hindrance, all right. But the individual may not be, and thousands of people who are in fairly comfortable circumstances are not—not on account of the immediate expense of caring for the patient, but on account of the inconvenience and trouble that come to other members of the family. This, as I have repeated over and over again, is a community problem. The community owes it to itself to provide a place where they can take the people—for its protection, not for theirs. I am not concerned in the least with the patient in this point of view, or with the family of the patient. I am concerned with the duty which the community owes to itself, for its own protection, for the protection of my children and your children.

How can it best be done? I object very much to this idea of charity. It is not charity. When the city maintains public bathing beaches and bath houses which everybody can go to, those who go there are not objects of charity. It is simply taking advantage of one of the welfare opportunities which the city places at the disposal of its citizens.

The city has an obligation to perform in regard to the care of contagious diseases on the hospitalization side. The person who goes to that hospital is not an object of charity at all. And that is why I have taken for my slogan, so to speak, in this matter, "A municipal hospital free for everybody and good enough for anybody." If the city is going to have a hospital, it ought to be built, and managed, and supplied, and conducted in every way as well as anybody could want to be cared for. In other words, there will not be in an institution of that kind two classes of treatment, or two classes of anything. Chicago is not a town in which it would be a healthy proposition. Anybody who wished to get a referendum on that proposition would be snowed under very quickly, I think, on the proposition that the city institution should provide two classes of accommodations—one for those with money and one for those who do not have as much.

We want to first build the central hospital. If, in the years to come, it is necessary to build others, well and good. That is for the future. But we want one good place to start with.

The person who avails himself of accommodations of any kind which are provided by the community for the community good is not a recipient of public charity, no matter how poor he may be.

Now, in regard to the feasibility and the need. Unquestionably there is a great need for a place where patients sick with contagious diseases can be sent, other than the public institutions, to which they may not care to go. That rests with them. Everybody is entitled to his opinion if he can afford to pay for it. The law in Chicago permits any hospital to care for contagious diseases. I don't know when it was changed, but it was that way when I came in, in June, 1911, and has not been changed since. I have always wondered why it was that the physicians of Chicago did not get together and establish a hospital of that kind. I have no doubt it could be made to pay, and it certainly would fill a very great want, because many people want that kind of accommodation.

Regarding those taken sick with contagious diseases in hotels, it is entirely possible to take care of a member of a family taken sick in a hotel. All we have to do is to put a placard on the particular door, not in the corridor, and, if they are able to pay, put a nurse in charge of the patient, and there is no trouble—they don't have to go to an institution.

Coming to boarding-houses and places of that kind, it is a different problem. Those people, of course, would have to go to a public hospital.

There are certain things in regard to the public hospital of which I want to speak very briefly that do not make it, as I see it, a desirable thing to mix the two classes of patients. Within the last few months I have visited a number of the contagious disease hospitals in the United States, and have talked with the men running them and the people under them, and I have not found anybody who thinks it is a very desirable or successful plan, from the administrative side, to run the two things together. In Philadelphia they have a very elaborate place, and they have hardly anybody in it. I was there in December, in the season when there were lots of contagious diseases in the city. In Baltimore they have a private building. In Cincinnati they also have a private building. New York has had a private building, and they care for a great many. And this is what happens, because people are human: if you have two different classes of people in an institution—one class in private rooms, with special nurses and a separate class of attendants—it means that there will be presents from grateful patients, there will be gratuities; there will be tips, if you like, that, in spite of all you can do in the way of management, will filter out from those private rooms and the special class of patients into the pockets of those who attend them, and when you have two sets of people in the same institution—one set is getting all the attention and the other set is getting none. This is bound to happen. You cannot draw a parallel between a general hospital, which has certain public wards where they take charity patients and certain other wards where they take patients at very reduced prices, and private rooms at $15, $25, and $50 a week, and an institution for contagious diseases, because in the institution for contagious diseases you have got to have a very technical kind of ward administration. You can't change your administration to suit one man—whether doctor or patient. It has got to be the same every day. If it is not, the plan breaks down.

We are going to build a hospital on the modern cubical plan. The foundation is contracted for, and the plans for the first pavilion are completed, and we will add to that. The operation of a hospital of that character depends on the careful training of the individual nurses and medical attendants. We all know the doctors go back and forth, and the Lord is good to us, because diseases are not spread so much by third parties. But when you have a cubical or any other well-ordered hospital, you have got to have sick call at certain times. There must be certain definite hours when the visits are made; when the medicines, if such are needed, are prepared; when the orders are given as to the diet and routine treatment during the day, and another sick call at night. And so you cannot have medical attendants coming in at all times and breaking up that routine. It is absolutely out of the question, unless you are going to put it on a pay basis. If you do, it will mean that this class of pay patients will have not only their special attendants, but will get a little the best of it all the time. The cost of care for those people, not only in money, but in administrative efficiency, in the breaking up of established routine, in the shattering of daily order of the general business to be transacted, is going to run into a great deal of money in the course of a year.

The patient who goes to the municipal hospital is entitled to the best that the city can give him—the best bed, the best nurse, and the best of everything that he can get for money—within reasonable limits, and that is what we propose to give these patients.

As to physicians and the family seeing these patients, they do not pass entirely—as much as Dr. Ritter spoke of—out of their hands. There will be certain visiting hours every day. There will be a glass-lined corridor, to which visitors can be admitted, which will be entirely separate from the patient. A mother can walk down to the number of her child's room, pull the curtain aside and see the child. She talks into a telephone right in front of her. A dictagraph alongside the bed, which is delicate enough to take even a child's whisper, will be in each room. The child can talk to its mother without raising the head, and the mother can talk without any trouble at all. She sees the patient and the patient can be communicated with. There will be no cutting off of communication, or anything like that.

We chose the site for this hospital for several reasons. It is directly southwest. The center of the industrial population is moving steadily southwest. We went about a mile and a half southwest, or thereabouts, of that center, and directly in the path of that industrial population as it moves. We went to a place where we would be on the main backbone of the boulevard system of the city, on California boulevard—you can get anywhere from there. The outer harbor of Chicago is going to change conditions about the lake traffic. We expect to have a motor boat ambulance to work in the vicinity of the river, to be in service in the outer harbor. It can come right up the river to the Drainage Canal and to the hospital grounds. We expect to build out of reinforced concrete, which will be prepared in the Bridewell quarry.

One of the most trying things, as Dr. Hornsby knows, is looking after the mechanical end of it, the firemen, the engineers, and all the rest of it—the power, etc. We are going to get away from all of that. We are going to save about $60,000 by not building a power plant. The contracts have just been let for the city to build a big central plant for the public works, a big pumping plant in connection with which there will be a very handsome public swimming pool. The man who goes there is not an object of charity any more than the man just across who goes to the contagious disease hospital. All we will do at the hospital will be to open a valve and turn a switch. We will draw all our power, heat, vacuum service, and everything else of that kind from the central plant, run the elevators, have light, and so forth. The superintendent will have absolutely none of that on his hands.

We had no money to put into an expensive site. The water fund had the money. They could not get the site for the hospital because the law did not permit them to condemn for hospital purposes. We had to go to the Legislature and wait for months. We got a bill through to condemn for hospital purposes, and then we had to go to court and fight a law suit, get a verdict, and have the city buy the ground. The water fund bought it, and has leased it to the health department at a reasonable rent, and for a small sum we will have a very desirable site and save a great many thousands of dollars.

So, then, we have accessibility. We have exposure on all sides—on the north, the Bridewell grounds; on the east, the wide parkway and boulevard; on the west, fifteen or eighteen acres of city property, to have low buildings; on the south, the Drainage Canal. So that we have practically a permanent open exposure—something that it is almost impossible to obtain anywhere else in approximately the center of the population area of a big city.

We know, of course, that there is going to be very great pressure from the hospitals as to pay patients. There is on difficulty in the way. When you have a cubical hospital, it means that A gets just the same kind of accommodations as B; they are all alike, and they have all got to be where they are under observation.

The whole trend of the care of contagious diseases here and abroad is toward the cubical or small unit system—at any rate, in the initial stage of these diseases; later on, when the period of development has passed, these patients are passed on into other wards, differently constructed, where cases that are of the same general character can be kept together, but in the initial stages the whole trend of treatment today is toward the cubical system. The small unit cannot be operated successfully if you are going to have different classes of service in two cubicals right alongside of each other. You must have uniformity of method, or the thing will not work.

I sympathize entirely with the members of the profession in their quandary in regard to what they should do with contagious diseases. I don't wonder. We know what we have had. We have that little building, twenty years old, and a bad example of its type. But it is clean. We don't have many cross infections. We get some. Our figures are, I am sure, rather better than those of some of the larger hospitals. But it is a little place, not well designed or built, and expensive to run, and it is all wrong.

Of course I am assuming that I can do it. But, assuming that the Lord gives me the knowledge to do it, and I stay long enough, and we get something that looks good, both on the inside and outside, with a man at the head of it with salary enough to make it worth while for a first-class man to take charge, and an organization approximating the best of its kind in the world, it will not be long before the public will recognize the fact that there is a new order of things. Finally, a public hospital, maintained out of the funds of all for the benefit of all, is not the place to set up two standards of treatment. Those who want to pay and want expensive accommodations ought to have them, but not in a public hospital.

Hospital superintendents are every day asked to "look over" the plans for new hospitals or new additions, and to suggest any changes they think will improve them. This information is asked gratis, to supplement the lack of knowledge on the part of the architect, who is drawing a nice fee for his services. Every board of directors should, in making its arrangements with its architect, stipulate that the architect shall employ an expert hospital administrator as consultant, the person to be satisfactory to the board, and that an adequate fee—say, 1 percent of the total cost of the improvement—shall be paid by the architect to the consultant. Then the architect can set his charge accordingly, and the hospital will be built for business instead of as a monument to the architect, as is so often the case at the present time. However good an architect may be in his profession, he can have no first-hand knowledge of the details of the work to be done in the hospital, and the slightest mistake he makes in internal arrangement will cost money in administration. It is just as easy and costs no more to build so that all the energy expended shall count. People to do the work in a hospital cost money, and an endowment fund can be hard hit every year to pay for work that would have been needless with a little different arrangement of the interior of the building.

OCCUPATIONAL TREATMENT OF PATIENTS IN STATE HOSPITALS.

Gardner State Colony, Massachusetts, Leads Way in the Newer Care of Mentally Sick—Work and Recreation for All.

Occupation for the mentally unbalanced has been definitely shown to give the largest measure of hope for a cure. Hospitals for the mentally sick everywhere in the world are practicing various methods of occupational treatment, and it has been almost definitely agreed that

Fig. 1. Inmates laying foundation for building. These incurably insane men are capable of making correct measurements for building lines and walls. They built the colony home in the background.

the inmates of a great state hospital must be given different classes of work for different individual reasons. Some patients do not take kindly to indoor work and must be kept in the open air, and their freedom from symptoms is shown to definitely depend on their being kept busy. Some patients, on the other hand, incline to craft work, occupation for their fingers and hands, so that in the activities of a great institution almost every occupation is involved.

One of the foremost institutions in this country, and one that is perhaps better situated than most others for practicing occupational treatment, is the Gardner State Colony, at Gardner, Mass. This is a state hospital for the care of the supposedly incurable insane, where there are about 1,500 patients suffering from every known mental disturbance, every species of insanity.

Dr. LaMoure, in his development at Gardner, was unfortunately situated in some respects and quite fortunate in others. The colony consists of about 1,500 acres of land, mostly rocky, unproductive hills, but Dr. LaMoure has shown that these barren hills can be made most productive, and, although every acre has had to be retrieved from absolute barrenness, there are now hundreds of acres of productive farm lands.

In the arrangement of the Gardner Colony, homes have been built and divisional farms have been created at various sites on the hillsides, and the work has been beautifully laid out. For instance, one farm contains the dairy, which last year yielded 142,526 quarts of milk, worth more than $10,000, and this farm was increased last year by the birth of more than 100 calves.

On another colony is located the poultry farm, which last year produced more than 2,000 dozen eggs, worth $704.64, and over a thousand broilers and grown poultry for the tables at the various farms. The main farm is devoted to the growth of vegetables and fruit. Thousands of quarts of small fruit were raised, and from these rocky hills were produced thousands of barrels of potatoes, turnips, carrots, and cabbages.

When the present writer visited Dr. LaMoure at Gardner, some months ago, there were fifty or seventy-five hogs at one point, rooting about on a hillside in which there was not a blade of grass, not a vestige of vegetation. Great bowlders lay about everywhere, hugh rounded rocks, evidently the result of glacial action ages ago, and there were smaller bowlders clear down to fine sand. Notwithstanding there seemed no possibility of there being anything to eat for swine, the hogs seemed to be busy rooting, and Dr. LaMoure was asked whether they were just unintelligently optimistic hogs and were hoping against hope, or whether there was any actual precedent on which they might base their assumption that their energies would eventually be productive.

"Well," he said, "we have developed here what might be dignified by the name of a peculiar technic. Do you see that other piece of hillside beyond?" pointing to a beautifully green and productive ten acres, adjoining the desert spot. "Well, three years ago that was exactly the same sort of ground that this is, and because we had no

Fig. 2. The repair shop. These men can mend anything except a sick brain, and some of them do the finest kind of mechanical work.

Fig. 3. One of the sewing rooms. Some of the women do hand work, while others sew on machines. They make all the clothing worn in the institution for both men and women.

other place to turn them we put our herd of hogs there. For want of something better to do, they seemed to go to digging, and they found under the rocks and bowlders fungoids and bugs and worms; and they seemed to not only enjoy the digging, but seemed to be paid for the labor by what they found. The result was that in the course of a few weeks they had dug out some of these great bowlders that you see down in the hollow yonder, and all we did was to put them on stone boats after they had been entirely dug out of the surrounding sand, and haul them to the bottom of the hill. Then we put hundreds of our people to work picking up the smaller stones, and those, too, were hauled to the bottom of the hill. Then we turned the cattle in and fed them fodder there, and you see now we have a really fine piece of garden land; and so the colony's farms have been retrieved from waste space by the herd of swine."

More than $40,000 of value was produced on the Gardner Colony last year. But not only was the farm productive, as the activities of the institution cover vastly larger fields. The patients, many of them, are ingenious, and some of them are craftsmen. They have built nearly all of the colony houses at the institution. Some of them do beautiful architectural work. Some are designers, make all the drawings, and draw the specifications. The style of architecture they have developed is most artistic, and is quite as sane as that of some architects who are still at large. Others of these men work the materials, mix mortar and cement; they shape their own stone for building purposes and do their own woodwork; in fact, everything connected with new buildings is done by the patients.

But the institution's activities do not stop even there. There are various crafts practiced in a large building

Fig. 4. Women weaving and making rugs. The old lady in the center furnishes frequent surprises by the artistry of her figures.

Fig. 5. Women's work room. All the coarser fabrics used in the colony, such as mattress and pillow material and the workmen's overalls, are woven by the women. Dr. LaMoure grows his own wool for the finer fabrics.

erected for and devoted to the purpose. There is a carpenter shop and a furniture factory, in which all the furniture for the institution is made, such as chairs, tables, sofas, lounges, etc. There is a machine shop in which repairs and renewals are made for the great power plant that is used to supply light and power in all the colony buildings. Kitchen utensils are made in the machine shop, and there the machinery of all the crafts is made and repaired. There is a shoemaking department, in which all the shoes for the institution are made and repaired. There is a mattress and pillowmaking establishment, in which not only the mattresses and pillows used in the institution are made, but many for other of the institutions in the state. The ticking for mattresses is woven on the premises in the weaving machines, worked by both men and women, and in these weaving machines are also made all the coarser fabrics used on the place. The institution has its own herd of sheep on one of the farms, and shears its own wool; cards, weaves, and spins, and makes up this wool into cloth for the patients. Beautiful homemade carpets and rugs are made in one of the establishments, and a great amount of basket weaving is done. In this work some of the most violent patients take part, and are given occupational recreation that does them a vast amount of good.

The farmers all about the country are, as a rule, shorthanded, and patients are paroled out to them, and are allowed to work and have the money that they make when working for the farmers. Some of these men and women are excellent farm hands.

Gardner is supposed to be a home and a refuge for the hopelessly insane, but nearly all the people are happy,

Fig. 6. Building a colony home. The patients prepare building stone, make their own mortar, do all the carpentry and woodwork, make their own measurements, and do every particle of the work. Some of them are designers and draftsmen, and they have, once in awhile, designed some as crazy architecture as architects who are still at large.

and they are made to feel that they are welcome in the institution and that their keep is not a tax on the public, but that they earn their way. Therefore they are made to be self-reliant and independent, after a fashion.

But it is not all work at Gardner. The patients have a good time. In the outdoor season they play ball, tennis, golf, and occupy themselves in hundreds of ways in the

Fig. 7. Mattressmakers. These men are also excellent shoemakers, and are "bosses" in these two departments. The younger man is one of the vicious patients.

open air. In the winter evenings they have reading, recitations, entertainments of all sorts. They have pianos everywhere, and many of the patients play well on that or some other instrument. They have their orchestra and have musicals frequently. They have an excellent library, bowling and billiard rooms, and on the whole it is not such a terrible thing to be insane if one can be sure of the happy, even passage of one's life at a place like Gardner.

VAGINITIS IN CHILDREN.

New York Health Department Will Make Attempt to Find a Way to Handle This Infection.

Health Commissioner Goldwater has had presented to him at the beginning of his service as health commissioner of New York City one of the most perplexing problems before the health workers at the present time. The superintendent of the city schools of New York filed charges sometime since that forty-eight children in the public schools had been inoculated with some "loathsome disease" in the public hospitals of the city. It was said that some of these children acquired syphilis and that some of them acquired gonorrheal vaginitis.

An inquiry was made at once, and Dr. Goldwater has replied to the commissioner of education, making a preliminary report. As might have been expected, the charges were not correct. Of the forty families visited by the inspectors, fifteen were not found at the addresses given, but careful examinations were made in twenty-five families, and among these not a single case of syphilis or of suspected syphilis was found. Only six had been treated at any time in the municipal hospitals, twenty-four had never been inmates of any hospital, and two were found who had been inmates of municipal hospitals and who had, at the time of the inspection, gonorrheal vaginitis.

The health department is going to prosecute vigorously an inquiry as to the best way of handling these gonorrheal vaginitis cases. Dr. Goldwater, in his report, states the situation in regard to vaginitis in female children most graphically. He says:

"That a form of vaginitis, which is bacteriologically indistinguishable from gonorrheal vaginitis, is a common condition among children in this city and elsewhere, is well known to clinicians. It is thought by many clinicians that this form of vaginitis which occurs in children is clinically distinct from the gonorrhea of adults, and yet, as a matter of precaution, the treatment of the vaginitis of children, as carried on in carefully conducted institutions, is surrounded by all the precautions which are prescribed for the handling of infectious diseases.

"If a serious attempt were made to exclude from school all children who suffer from vaginitis, it would be necessary (a) to establish the machinery by which a complete physical examination of all female school children could be made; (b) to convince the public of the necessity of the proposed measure; (c) to establish the legal and moral right of the city authorities to require such an examination. Furthermore, inasmuch as the condition in question is one which, notwithstanding the most intensive treatment, often persists for months and even for years, it would be necessary to inaugurate a method whereby the education of excluded children could be continued. The only logical method would be to send private teachers into the homes of infected children.

"The questions here involved are among the most difficult and puzzling with which public health administrators have to deal. I am not aware that the problem has been solved anywhere, and I can only promise, on behalf of this department, unremitting attention to it, in the hope that a working program may ultimately be formulated."

NEW RULE FOR ISOLATION CASES.

New York Health Department Refuses Transfer of Children from Private Hospital to City Institution.

The New York City Health Department has established a new rule about the transfer of patients suffering from the communicable diseases from private hospitals to the city isolation hospital. Health Commissioner Goldwater's letter in a recent instance, in which the department was asked to move a child from a large country hospital outside the city to the Willard Parker Hospital, states the case clearly as follows:

"My Dear Sir: I regret that I am unable to comply with your request to have cases of contagious diseases removed from ——— Hospital to the Willard Parker Hospital. I am informed that the department has made such transfers in the past, but I cannot believe that the matter ever received very serious consideration. As an act of courtesy to your institution, compliance with your request is doubtless indicated; as a matter of justice to the children concerned, it is clearly contraindicated.

"The sanitary code prescribes that all hospitals and homes in this city shall have suitable facilities for the isolation of contagious cases. The principle is one which applies with equal force, whether in the city or country, and this department will now use its power and influence to hinder rather than facilitate the transfer of contagious cases whenever and wherever such transfer involves a long journey, with its attendant risks to the patient.

"I feel quite sure that on careful consideration you will assent to the proposition that all institutions which care for considerable numbers of children should have suitable facilities for isolation.

"S. S. Goldwater, Commissioner."

A report recently issued by Dr. Theodore Sachs, medical director of the Edward Sanatorium at Naperville, Ill., gives the information that during the seven years' existence of this sanatorium 949 patients have been admitted and 873 discharged. Of those discharged, 340 are now able to work at full capacity, while many others are almost, if not entirely, self-supporting. One hundred and forty-eight occupations were represented by the patients enrolled during the seven years. Indoor workers comprised 61 percent. On admission 55 percent of the cases were in the incipient stage, 35.3 were moderately advanced, and 9.7 were far advanced. According to the report the institution is largely self-supporting.

NEW HOME FOR BOSTON CHILDREN'S HOSPITAL.

Revered Old Institution Begins New Stage of Development and Usefulness in Up-to-Date New Buildings.

The Children's Hospital of Boston, after a distinguished career of forty-five years in modest quarters of old-style architecture, has now moved into splendid new buildings on Longwood avenue, in the Fenway, Boston, adjoining the Harvard Medical School, with which its association has now been made very much more intimate.

The hospital was recently opened under most auspicious conditions, and its supporters, made up of all Boston, anticipate for it even far greater influence in the future than it has had in the past. The Boston *Medical and Surgical Journal*, which has been so intimately a part of the medical and hospital progress of Boston, devotes almost its whole issue of April 2 to recapitulation of the splendid work of the Children's Hospital in all its departments, to which Mr. Chas. A. Coolidge, the architect, has contributed a masterful summary of the architectural features of the new buildings. Mr. Coolidge describes the new hospital partly as follows:

Fig. 1. Boston Children's Hospital—General view.

The Children's Hospital, as an architectural problem, was quite an unusual one. There were three separate gifts which required to be individualized, and yet it was evident, for the sake of convenience of administration and economy, that three separate buildings should not be built. After several studies it was finally decided to build the present arrangement, which consists of an administration building, which occupies the center of the main building, from the money left in memory of Mrs. Robert Hooper; the dispensary building, which is the portion of the main building to the west of the administration building, from the gift of Mr. F. W. Hunnewell; and the nurses' home, the portion of the main building to the east of the administration building, from the money left by Anne White Vose for a nurses' home. These different portions are separated by fire walls, and are practically separate in their uses as well as in construction. These main buildings are fireproof throughout, and the exteriors are built of a concrete conglomerate which consists of crushed trap rock, sand, and Portland cement, without any coloring matter, which has a tendency to weaken the concrete. No attempt has been made to make it an artificial stone, but simply to have the most durable material, and to make the mass a uniform color, which gives a more solid appearance to the structure than brick with stone trimmings, especially as there are a great many windows and quite large ones.

In the administration building are the offices, reception rooms, examining rooms, kitchen and serving rooms, storage rooms, superintendent's suite, x-ray department, house doctor's quarters, ladies' aid room, and servants' quarters.

In the dispensary building are the receiving room, isolation suite for immediate isolation of possibly contagious cases, separate waiting rooms, examining rooms, treatment rooms, etc., for all departments; operating rooms and recovery rooms for minor surgical cases; plaster rooms, gymnasium, etc.

The nurses' home is built for seventy nurses, with five rooms for the sisters who have charge of the hospital.

At the request of the medical staff the top floor of the dispensary has a ward and arrangements for dispensary cases, so that when necessary a dispensary patient can be kept there and not taken into the regular hospital. This ward and rooms are isolated. On the top floor are also a limited number of rooms for private patients. Except the above, all the patients are in ward buildings on the pavilion plan, entirely outside the main building on Longwood avenue, and connected with it by a circulating corridor which has three levels—the lower one for pipes and heat; the second, which is inclosed and half above grade, for food, etc.; and the upper one, which is on the level of the main floor, for general circulation. The latter is screened with glass sash where necessary, and has a flat roof, which can be used as an emergency fire escape.

These wards are not of fireproof construction, as the lower floors are practically on the ground level and the upper floors have large balconies on three sides connected with the roofs of the corridors. It was the intention to keep the shells of these ward buildings as inexpensive as possible, so that in the future, as the treatment of hospital wards changes, the trustees would not be hampered with too expensive permanent wards. This does not mean that the arrangements for the comfort of the patients, or the plumbing or sanitary arrangements, are not the best,

Fig. 2. Boston Children's Hospital—Main building.

but that the wards are of rough cast instead of stone or brick. A plan and section of the double wards is shown, so that it is not necessary to go into the details, but merely to call attention to certain particulars.

There are at present two two-story double wards and two one-story double wards, and locations left for two additional double wards in the future. By double wards is meant a ward on each side of the corridor on the same level. These single wards contain 10 beds each, with an observation room separated, making 22 beds in a single-story building and 44 in a two-story building.

In planning for the future increase in the number of the beds, it is the intention to place another story on the one-story wards, making them two-story wards, as shown in the accompanying section.

The method of ventilation in the wards is by a monitor top in the ceiling, as well as the windows on the sides. Those toward the south are large sliding doors, with metal plates attached to the doors fitting tight into a deep slot in the bottom and sides. These doors make practically an open ward in summer, and allow the beds to be easily pushed out on to the piazza to the south, which is fifteen

Fig. 3. Boston Children's Hospital—Ward building.

feet wide. This piazza treatment, with a narrow roof on the outside away from the building, is new, and has the advantage of allowing the sunlight to enter the ward and yet protecting the patient from the direct rays of the sun and the rain. In placing the second story ward above the first story ward, the monitor form is retained in both upper and lower wards; there is no damage done to the lower ward as far as ventilation or light is concerned, as the outer wall in front of the first-story monitor is merely open lattice, so that the air has perfectly free access to the windows in the monitor top; also the balconies on the second story, which are wide, are so far above the windows in the lower ward as not to interfere with the sunlight. Each separate ward can be entered from out of doors and access cut off entirely from the main corridor, and, as each ward is complete in itself, if desired, there can be perfect isolation.

The Children's Hospital began its auspicious career in 1868, and has numbered among its medical staff members and trustees some of the great men of New England, and from its honored walls have come some great advances in the science of medicine, not only in hospital administration, not only in the diseases of children, but in surgery and medicine, especially orthopedic surgery.

Some of the splendid work of the hospital during its years of existence was told in this April 2 number of the Boston *Medical and Surgical Journal*. It is a most inspiring story.

SERVICE AND PAY OF HOSPITAL HELP.

Inquiry Committee Finds That Rate of Pay Is Not Parallel With Length of Service.

The investigating committee of the Board of Estimate and Apportionment in New York has recently inquired into the problem of hospital employees. The report is embodied in a pamphlet just issued.

There were some most interesting developments that are considered in the committee's conclusions, indicating that Bellevue and the Allied Hospitals are having the same difficulties in regard to the cheaper help that other hospitals are having, have always had, and always will have. The committee's report is summarized under three heads, and these summaries are well worth reading with careful thought:

A. SUMMARY OF FINDINGS.

1. A large proportion of hospital helpers are so-called "rounders" and "periodic drunks." Many of them, however, are capable and render good service.
2. The large number of changes represent, in the main, the same personnel, shifting from institution to institution.
3. Raising of the yearly wage from lower to higher grades during the last four years has not increased the average length of stay.
4. The eight lowest grades, from $60 to $168, show about the same percentage of discharges in each of the four years examined, although the average wage has been increased within these grades.
5. The percentage of discharges in grades $180 to $264 in the department of Bellevue is as large as the percentage of discharges in the grades $60 to $168 in the department of charities. The average length of stay in the corresponding grades is less in these upper grades in Bellevue than in the lower grades in the department of public charities.
6. The grades of hospital helpers and titled positions overlap. The highest grade of hospital helper is $720; below this highest grade fall such titled positions as seamstress, cook, barber, tailor, etc.

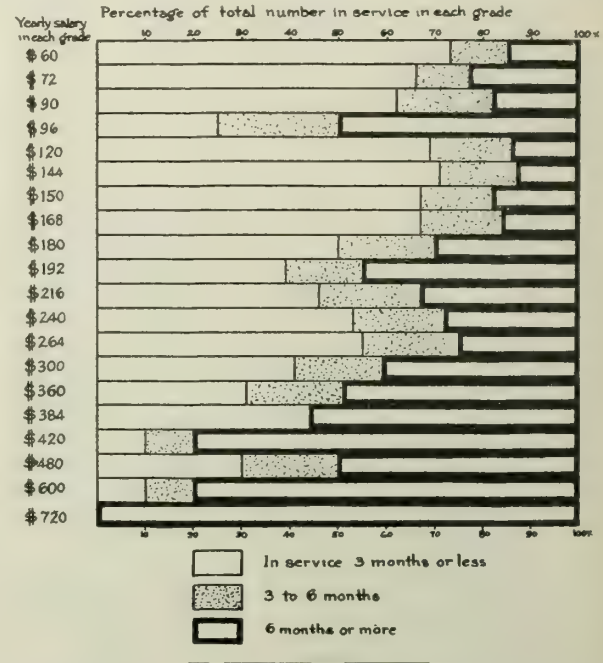
B. CONCLUSIONS.

1. The city has assumed the support of the indigents; and, in the absence of other institutions wherein the periodic and semi-responsible drunks can live and work, they can to the best advantage, both to themselves and to the city, be supported as workers in the city's hospitals.
2. This class renders good service when sober, and is content to serve for a small wage.
3. When the hospital helper leaves the service because of drunkenness, it is easy to fill his place, usually with an experienced helper, during about eight months of the year. In the summer months there is some scarcity of help, which, however, is not a serious handicap, owing to the fact that there are fewer admissions during these months.
4. The lower grades, from $60 to $168 per year, act as a buffer to the higher grades and when the lower grades are abolished the same character of helpers is employed in the next higher grades, without decreasing the percentage of discharges or increasing the constancy of service.
5. Since raising wages in the lower grades has not increased the length of stay in the institutions, it is a waste of money to increase the wages of any large proportion of the helpers serving in the lower grades, unless such increase abolishes all low grades.
6. It is the opinion of some of the officials in the hospitals that good living and sleeping quarters and good food contribute largely toward contentment of the workers, and that such conditions tend to increase the constancy of service. These opinions seem to be borne out by the fact that the average length of stay in Kings County Hospital is less than in City Hospital or Metropolitan Hospital, although the everage wage is larger in Kings County Hospital than in these other hospitals, which have better accommodations for the low-paid helpers.

C. RECOMMENDATIONS.

1. Let all employees receiving $480 and below be called hospital helpers. Let all receiving more than this amount have titled positions.
2. Retain grades $120, $180, and $240 until such time as the city shall have accommodation in its hospital and Industrial Colony, to be established, for the class of hospital helpers who are subject to periodical drunkenness, and also until such time as the city can afford to pay a minimum wage of $240 for women and $300 for men.
3. Of the existing twenty-one grades abolish all but the following: $120, $180, $240, $300, $360, $420, $480.
4. The persons to be employed in these grades and the conditions of promotion are set forth in an accompanying salary and wage schedule.
5. Provide better living and sleeping quarters for hospital helpers.

As a finality the committee has prepared a most interesting chart, herewith presented, showing the average length of service for employees in the various grades of pay.



The $100,000 fund recently raised for Ellis Hospital, Schenectady, N. Y., by public subscription will be used to provide an annex, with accommodations for a children's ward, an additional general ward, nurses' quarters, etc.

CURRENT HOSPITAL LITERATURE

Albert Allemann, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The New Hospital at Dreux (Le nouvel hopital de Dreux). Dr. Leviste. Paris médical, 1914, XIV, No. 6, supplement.

This new hospital was opened by Mr. Poincaré, president of France, October 26, 1913. It replaces an old hospital that was erected in the seventeenth century. The new hospital is arranged on the pavilion system. It is located on a high elevation, and is provided with all modern improvements.

Hospitals with Their Own Gas-Producing Apparatus (Eigene Gaserzeugung in Heilanstalten). H. J. Klinger. Heilanstalt, Leipsic, 1914, IX, No. 4.

Hospitals which, on account of their location, cannot obtain their gas supply from a general source, may now own their own gas plant at a very small expense. Such an apparatus, called the "Benoid Gaserzeuger," has lately been invented. It consists of a generator, a blower, and a gasholder, with an automatic starting and stopping device. The expenses of Benoid gas amount to 12 pfennig (three cents) per cubic meter (1,000 liters).

The Care of Tuberculosis Patients. Christian R. Holmes, M. D. Lancet-Clinic, April 4, 1914.

Dr. Holmes was speaking on the occasion of "breaking ground" for the tuberculosis hospital of Cincinnati. He reviewed the efforts of society to stamp out the "white plague," ending with the recent practice of giving patients some sort of occupation according to their strength and former habits of life. He said it was proposed to follow the same plan in the new hospital, though there are only 60 acres of ground for 400 patients, whereas some authorities thought 150 acres would occupy 100 patients.

The Hospital for Heredo-Syphilitic Children in Berlin-Friedrichshagen (Das Pflegeheim für erblich-kranke Kinder in Berlin-Friedrichshagen). E. Köberlin. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 7.

Experience has shown that syphilitic children may be completely cured by careful and proper treatment. This fact induced Dr. Welander, the philanthropic physician of Stockholm, to establish at his own expense a hospital for syphilitic children in that city. The results surpassed all expectations. Not a single one of the children who were treated at the hospital during the last twelve years died from the disease. Soon afterward the city of Copenhagen established a similar institution, and lately such a hospital for syphilitic children was opened in Berlin. It is the only one of its kind in Germany, and was founded by philanthropic citizens of Berlin. It contains at present 28 children, one-third of whom show already a negative Wassermann reaction and the others are improving rapidly. The children are almost exclusively treated by Welander's method. The children remain at the hospital until they are 5 years old. Nurslings are received together with their mothers, the latter being treated at the same time. The institution stands under the direction of the eminent dermatologist, Dr. O. Rosenthal.

A Rural Experiment in Medical Cooperation. Walter H. Brown, M. D. Survey, New York, 1914, XXXI, March 28.

Grand View Hospital has been recently opened at Sellersville, Bucks county, Pa., with a view of solving the problem of rural health through organized rural physicians, the promoters of the enterprise being the North Pennsylvania Clinical Society, a nonsectarian medical organization of country physicians. Their field of labor is to extend over an area of some two hundred square miles, containing eight towns of a population ranging from 500 to 4,000 citizens, with thickly settled agricultural districts.

Mild-Steam Heating for Hospitals (Milddampfheizung für Heilanstalten). P. Georgi. Heilanstalt, Leipsic, 1914, IX, No. 4.

From a modern point of view the central heating plant is unquestionably the best system. There are two forms—warm-water heating and low-pressure steam heating. Both systems have their advantages and disadvantages. As the great heat of the low-pressure steam has an unfavorable effect on the air in the rooms, the author proposes a modification. He does not pass pure steam through the radiators, but mixes it with air. He calls this form of low-pressure steam heat "mild-steam heating" (Milddampfheizung) or injection heating (Injektionsheizung).

German Hospital Development—An Expert Continental Review. Hospital, London, 1914, LV, March 14.

Attention is directed to "Ergebnisse und Fortschritte des Krankenhauswesens" (Incidents and Progress in the Hospital World), the second volume of Prof. Dietrich's monumental series of books on hospitals, published by the well-known firm of Gustav Fischer, Jena. This second volume is edited by Prof. Grober, chief of the medical clinic of Jena, and proves an interesting, well-printed book of 166 illustrations. The series gives yearly records of hospital development and of early reference by hospital workers and architects. On the continent, and especially in Germany, progress in hospital work is so rapid that it is not surprising that sometimes there is an innovation which is really a regrettable retrograde movement, and even in wide ranging essentials is such a retrograde movement to be witnessed.

The Care of the Baby. Supplement No. 10 to the Public Health Service Reports.

The bulletin presents conclusions from a number of sources, and as the results of inquiries by a number of committees, on preventive medicine for infants. Some of the topics treated, and on which excellent advice is given, are nursing, weaning, mixed feeding, bottle feeding, milk formulas, care of the home—in which the baby is the most vulnerable factor—the baby's room, clothing, clothes lists, sleep, the bath, contagious diseases, eye diseases, blindness, vaccination, birth registration, and parental care. The bulletin is valuable, and can be secured by application to the Public Health Service, Washington, D. C.

Researches on the Disinfection of Woolen Covers with Formaldehyd (Untersuchungen über Wolldecken-Desinfektion mit Formaldehyd). A. Elgström and A. Erlandsen. Ztschr. f. Hygiene, Leipsic, 1913, LXXVI, No. 1.

The relative humidity of the air in the formalin chamber must be kept at at least 80-90 percent during the whole disinfection period. The disinfection must be continued during at least nine hours. For new woolen covers at least 20-25 c. c. of formaldehyd per cubic meter are necessary; for old covers, at least 35-37 c. c. To fill the severest requirements, the amount of formaldehyd should be increased to 45 c. c. per cubic meter and the time of exposure be lengthened to 22 hours.

A Contribution to the Question of the Size of Hospitals for the Insane (Ein Beitrag zur Frage der Grösse der Heil- und Pflegeanstalten für Geisteskranke). J. Starlinger. Ztschr. f. Krankenpflege, Leipsic, 1914, X, No. 10.

The author takes a stand against those writers who claim that small hospitals are the most expensive and that large institutions of 1,000 or more beds are the cheapest. He mentions as an example the new state hospital of Görlitz, which was lately opened. This hospital is built on the pavilion plan and has room for 400 patients. It comprises an area of 160,000 square meters. The costs for the grounds and the expenses for the erection of the buildings amount to 1,650,000 crowns (about $340,000), or a little over $800 per bed.

The State Hospital for Nervous and Mental Diseases at Lübeck-Strecknitz (Staatliche Heilanstalt für Nervöse und Geisteskranke Lübeck-Strecknitz). Dr. Wattenberg. Psychiat. neurol. Wchnschr., Halle a. S., 1913-14, XV, No. 47.

This new hospital was erected by the commonwealth of Lubeck. In selecting a location, the experts appointed by the city demanded that the following requirements be fulfilled: the hospital must be as near the city as possible; it must be isolated and have beautiful surroundings; there must be no industrial establishment in the neighborhood; the surroundings must be healthful; the place must be protected against cold winds; the soil must be suitable for cultivation; the hospital must be on a macadamized road; there must be villages in the neighborhood, that the gradual introduction of family care for the patients may be made possible. As desirable points were mentioned location near a stream and in the neighborhood of woods and meadows. The location at Strecknitz, 3.6 kilometers from Lubeck, was selected as the most favorable. The hospital is built on the pavilion plan. It has at present room for 319 patients, but the hospital can at once be enlarged to receive 500 patients.

An Address on Medico-Social Problems from an Insurance Point of View. Sir Thomas Oliver. London Lancet, April 4, 1914.

The writer discusses cancer and "athleticism" as two dominant social factors, and their influence on insurance and on the general well-being of society. Cancer is on the increase, insists Sir Oliver, and its effects are to raise insurance rates by reason of its increasing mortality. He discusses its causes, at least the social causes, such as environment, locality, heredity; and extraneous causes, such as traumatism. On the question of athletics, Sir Oliver sounds a note of warning. He thinks it highly improper for young men who must earn their living as clerks and in the sedentary occupations to engage in the more strenuous exercises, such as marathon and boat races. "The tendency of the age," he says, "is to overestimate athletic exercises. It has yet to be shown that from those public schools which pride themselves in games and physical culture rather than in intellectual training, the longevity of their pupils is greater, and that when the work of life is summed up they have taken as good a place as those who were pupils in colleges renowned more for a happier mean in mental training and physical exercise."

The Question of Discipline in Hospitals. Charlotte A. Aikens, Trained Nurse, New York, 1914, LII, 233.

Attention is invited to the disregard of known regulations on the part of the head nurse, the outcome of neglecting to teach proper respect for authority. Instead of being an example to pupils in the observance of rules, their influence is often to the contrary. The writer claims that with many hospital graduates who choose institutional work the desire to have control, regardless of its effect on the institution, is a common characteristic. It should be the superintendent's duty, whether he realizes it or not, to teach respect for authority, without which there cannot be cooperation and harmony in hospital administration.

The London Temperance Hospital—Account of a Formal Reception for the Annual Meeting. Brit. Jour. of Nursing, April 4, 1914.

"The Children's ward, which owes its beauty to Lady Collins, once a sister in the hospital," says the report, "is one of the most charming to be found anywhere. The walls are tiled, and illustrations of nursery rhymes, carried out in tiles also, vignetted in form, an improvement on the ordinary panels, are delightful. The green curtains of the cots, continuing a note of color in the walls, look charming against the cream background. The small tiled aseptic ward for one patient came in for much admiration, and the men's ward adjoining is tiled also, mauve being the predominant note. In the theater, where the very best is made of the present space, although a new theater is one of the things for which the hospital is awaiting a fairy godmother, the operating table is heated by electricity, the convenience of which will be appreciated by those who were trained in the days when surgeons were beginning to realize how much shock was prevented by warmth of the operating table, and who expected a water bed filled and *in situ* for all cases of any magnitude."

The Hospitals of Germany (Gli ospedali in Germania). Rivista ospedaliera, Roma, 1914, V, No. 1.

The public hospitals in Germany are maintained and managed at the expense of the cities, communities, or districts. The state intervenes in various ways. In Prussia the state erects and maintains only the clinical hospitals of the universities, and does not assist the local authorities in the maintenance of hospitals. In Württemberg the state subsidizes the civic administrations. The great increase of the number of hospitals in Germany is due to the fact that the urban population has increased enormously in comparison with the country population. From 1870 to the present time the number of hospitals in Prussia increased from 888 to 2,314, and the number of beds increased from 37,039 to 160,437, while the number of patients rose from 211,060 to 1,204,641. In municipal hospitals the supervision is usually intrusted to a board composed of officials and citizens. In many hospitals the medical director has also charge of the administrative work, while in others he has an administrative officer at his side, but the German physicians favor a one-man administration. The medical association, which defends the interests of German physicians, has always demanded that the director be given full power over the administrative work, and that the manager be only an employee subordinated to the medical director.

Educational Standards for Nurses—State Registration and School Inspection. Sara E. Parsons, R. N. Boston Med. and Surg. Jour., April 9, 1914.

Miss Parsons, who is superintendent of the training school of the Massachusetts General Hospital, discusses the new rules under which nurses may be enrolled in the American Red Cross, and bespeaks the adoption of at least as high standards by state registration boards. The War Relief Board of the Red Cross, under which the new rules were prepared, requires a full two-year course, in which male patients must have been cared for; training in hospitals for the insane is not sufficient unless supplemented by general training; nurses must be at least 25 years of age. The author urges inspection, by qualified nurses, of hospitals that have training schools, and tells why such nurses are competent to make such inspection. She arraigns boards of trustees that commercialize their training schools. She refers at some length to the work of the new Household Service Bureau of Boston, which, under the auspices of the Women's Municipal League, is attempting to care for sick persons of moderate means, and she regards this work as the most important public health movement now before the people.

A Practical Small Hospital (Ein zweckmässiges kleines Krankenhaus). M. Berg. Ztschr. f. Krankenpflege, Berlin, 1914, XXXVI, No. 2.

The hospital of Neudeck, Upper Silesia, may serve as a type of a small country hospital. It contains 35 beds, and fulfills all the requirements of modern hygiene and practical arrangement of the interior. The building consists of a basement, two stories, and an attic. The entrance leads to a fine hall, which can be heated and serves as a waiting room. A corridor leads from this hall to the various apartments—namely, the consultation room, the laboratory, the operation room, a room for the nurses, and at one end of the building two isolation rooms for five or six patients with infectious diseases. This isolation division has a separate entrance. Broad stairs lead from the hall to the second story. One side of this story forms the division for men, the other for women. There is a large veranda, which during bad weather may be closed in by movable windows. The basement contains the kitchen, a dining room for nurses, a disinfection room, the central heating plant, and a wash collecting room, which is connected with all stories by a vertical shaft. The building costs were 100,000 marks ($25,000). The running expenses amount to 20,000 marks ($5,000) per year, which means an expense of 6 marks ($1.50) per day for each patient.

A committee representing the Illinois State Board of Administration, which has charge of the state's insane and epileptic institutions, after visiting a number of such institutions in the East with the view of getting ideas for the $3,000,000 hospital for the insane to be erected at Alton and the epileptic colony to be established at Dixon, has decided to recommend a combination of the congregational and cottage plans for the former and the cottage plan for the latter. The state has already purchased sites, a thousand acres for each, and the Board of Administration hopes to build the most modern and scientific institutions of the kind in the country. With the large tracts of land it is planned to take advantage of the remedial benefits of outdoor occupations for patients and also to aid in making the institutions self-supporting. The administrators assert that this plan has been found very effective in Illinois.

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The Hospitals of Germany (Gli ospedali in Germania). Rivista ospedaliera, Roma, 1914, V, No. 1.

A 27-bed private sanitarium has been opened recently at Vincennes, Ind., by Dr. Eugene Bowers and Dr. E. R. Leschner, formerly of Mt. Carmel. In addition to the regular medical and surgical treatment, various kinds of medical baths will be given. The equipment is said to be modern and adequate in every way. A nurses' training school will be maintained.

According to the will of the late Kenneth S. Walbank, of Chicago, three charitable institutions of that city—the Chicago Charity Hospital, the Home for the Friendless, and the Chicago Home for Incurables—will at the death of Walbank's widow share equally in a bequest of $225,000.

FOREIGN CORRESPONDENCE

PARIS LETTER.

The New Hospital La Pitié—A Brief Description of This Modern Hospital—Personnel of the Medical Staff.

Paris, April 15, 1914.

The newest and most modern of the Paris hospitals is the new Pitié. One should not fail to visit this institution, especially after seeing the German institutions, as nothing shows better than this the contrast between the municipal institutions of Germany and of France.

This hospital was sanctioned by the law of April 7, 1903, and is the first of the *grands travaux hospitaliers*, on which work some 45,000,000 francs will be expended. The new Pitié itself costs approximately 10,000,000 francs ($2,000,000). Instead of replacing the buildings on the old site, a portion of the extensive grounds of the Salpêtrière was selected for its erection. Work was begun on this hospital February 1, 1905, but on account of numerous interruptions the establishment was not opened until June, 1911.

The arrangement of the buildings follows the general order now adopted for our best-planned hospitals. The entrance on the Boulevard de l'Hopital is simple, constructed in brick and stone. To the left of the entrance are the out-patient departments for surgery, nose and throat diseases, and dentistry; to the right are the departments of medicine, eye diseases, and x-ray. As we pass the gate we come to a spacious yard, and, walking down the broad main avenue, we reach first on the left the administration building; immediately beyond this is the pavilion for the interns, the baths, the pharmacy, and the laundry. At this point the central avenue swings to the right and we encounter a round building, which is the amphitheater for the students, with a seating capacity for two hundred. Beyond this the hospital really begins; to the left is the medical group of buildings, consisting of

Fig. 2. La Pitié Hospital—Main entrance.

two groups of buildings of three separate services in each. On the opposite side of the avenue is the surgical group similarly constructed, with the necessary modifications for modern operating. Beyond these buildings is the obstetric group, which can be reached directly by way of the Rue Jenner. Other buildings for the personnel and the morgue are at the extreme end of the grounds on the Rue Bruant. The morgue is used in common with that of the Salpêtrière. The kitchens are placed behind the surgical group. Heating is by steam from a central plant, which furnishes service for baths, kitchen, disinfection, steriliza-

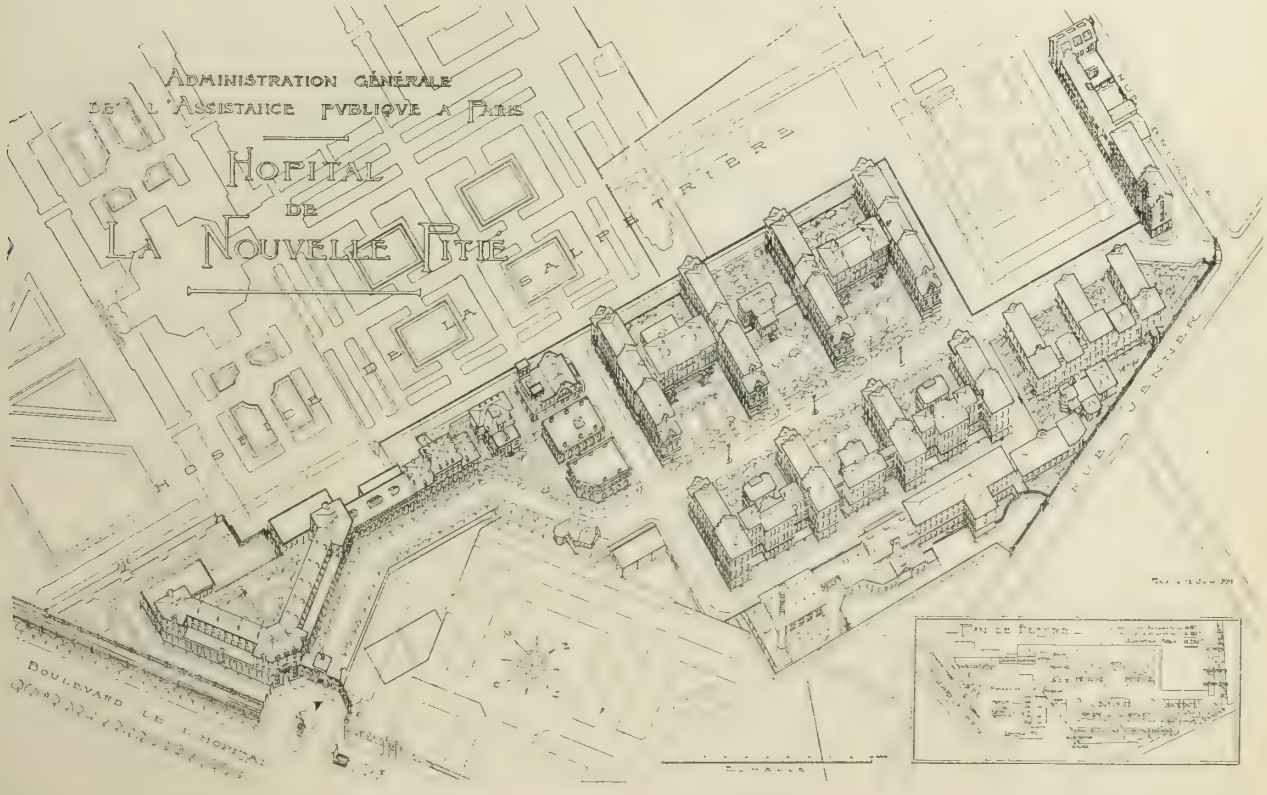


Fig. 1. La Pitié Hospital—General plan.

tion, hot water, and all general purposes. Electric light is furnished by a current from the Salpêtrière. Interior transportation is effected by wagonettes, specially constructed for various special purposes, through the different connecting galleries which are under all the buildings. The morgue has a cold storage space for thirty-two bodies, and there are fourteen tables in the autopsy room.

The opinion of the direction concerning the hospital I give as it stands untranslated: "En définitive, malgré les quelques critiques que l'on a pu faire concernant certains aménagements, ce nouvel établissement, qui est l'aboutissement d'un long effort, ne le cède en rien aux hopitaux

Fig. 3. La Pitié Hospital—Consultations.

analogues des grandes capitales européennes, at on peut dire que Paris possède aujour d'hui un modèle de construction hospitalière, ou viennet s'inspirer d'ores at déja les municipalités de province et de l'étranger."

This hospital is particularly fortunate in medical staff. First of all, as chief of the first medical service, there is Jules Babinski; the other chiefs of service in medicine are Lion, Claisse, Thiroloix, Enriquez, and Josué. The surgical chiefs are Walther, Arrou, and Thiéry. Potocki is chief accoucheur.

The intensive work and the high grade scientific work that is done at this hospital can be best estimated from the reports of the laboratories. Especially is this true when we consider the small budget allowed for this work by the

Fig. 4. La Pitié Hospital—A corner of the kitchen.

Counseil Municipal; a sum that would be considered a joke in the better municipal hospitals in our country. Babinski has the largest appropriation for this purpose—namely, $400. I quote from his laboratory report of 1912 a few of the things he has done with this sum: 1,600 Wassermann reactions; the regular numerous routine bacteriological, cytological, and chemical examinations pertaining to the medical service, including necessary animal inoculations for diagnostic purposes; also anatomical and physiological research work, which includes twenty published papers by ten different workers.

Dr. Josué, who received the munificent sum of 500 francs ($100) for his laboratory, did not only all the necessary laboratory examinations for his medical service, but carried on extensive research work, particularly on diseases of the heart, which includes ten published papers.

R. L. Thompson, M. D.,
Professor of Pathology St. Louis University School of Medicine.

AS OTHERS SEE US.

Eminent French Surgeon Finds Our "Passion for Science" is Placing Us in the Leadership.

Prof. Tuffier, the noted French surgeon, who spent several months in this country in attendance on the Clinical Conference of Surgeons, has been talking to the *London Times* about his experiences over here. Prof. Tuffier is perhaps better qualified to discuss hospital conditions in this country than any other Frenchman, because he has a private hospital of his own in Paris that is as far superior to the average French hospital as our best is superior to our worst.

"Autonomous hospitals," as he called the independent, privately operated institutions of this country, are far preferable to Government-owned institutions of Europe, he thought, because they give independent opportunity for initiative, and permitted individual freedom of action in research and betterment; boards and benefactors could supply or find money for these things in a privately supported institution, whereas Government moneys had to be used for maintaining all state institutions on one, fixed, low level, and no one could be permitted to exploit individual ideas, no matter how promising these might be.

Prof. Tuffier's idea of the American hospital administrator is unique:

"The hospital administrator in the United States is not a functionary. It is a position that is much sought after, and, next to having had an ancestor on the Mayflower or being a director of Harvard University, it is the greatest source of pride. Such men become experts, whose advice in arranging hospitals is most valuable."

He was impressed with our system of apprenticeship in medicine:

"A great advantage to American surgeons is that their assistants remain with them a long time. Dr. Cushing was seven years with Dr. Halstead, and finally spent over ten years at Johns Hopkins University. The brothers Mayo at Rochester, Minn., have assistants who are growing gray, while the French change theirs every four or six months."

We, over here, have come to look upon European pathology as something marvelous and almost unattainable. Prof. Tuffier draws the veil. He said:

"The superiority of American laboratories for scientific surgery is incontestable, and great praise is due the Rockefeller research institute. Thanks should be given for its results in a nation which was once accessible only to business, but has now become seized with a passion for science. The Pasteur institute, which lacks a laboratory for experimental surgery, is unable to compare with the Rockefeller institute."

The hygienic section of the Academy of Science and Art of Pittsburg, Pa., has announced plans for a floating hospital for its patients. It will be manned by a full crew of doctors and nurses, and will be for patients while they are awaiting admission to the state or county hospitals. Moving picture shows throughout Allegheny county are to be asked to set apart a day when pictures showing the ravages of the white plague will be shown, the proceeds to go toward the maintenance of the hospital. A considerable sum has been subscribed, and it is expected to have the boat ready for patients in the early summer.

LETTERS TO THE EDITOR

Miss Mary M. Riddle Is Honored.

To the Editor of THE MODERN HOSPITAL:

The inclosed notice I send at the request of Mr. Bray, chairman of the trustees of the Newton Hospital, who thought it would be fitting for some mention to be made in THE MODERN HOSPITAL of the tribute paid to Miss Riddle by the people of Newton.

EMMA M. NICHOLS, R. N.,
Superintendent of Nurses Boston City Hospital.

On Thursday, March 26, 1914, a dinner was given by the people of Newton, Mass., in honor of Miss Mary M. Riddle, the superintendent of the Newton Hospital. It commemorated the completion of ten years of active work, which has been noted for progress, cooperation, and service to humanity.

Those present will never forget the sincere appreciation of Miss Riddle's personality and work as expressed by the speakers of the evening. The city officials, public-spirited citizens—and there were many—the visiting staff, and the consultants spoke of Miss Riddle as one deeply beloved and honored. Under her wise leadership the growth of the hospital has exceeded the expectations of those who have had its welfare most at heart. From a cottage hospital it has developed into a general hospital, with such a corps of able doctors and surgeons that it ranks second to none in standards and efficiency. The people of Newton may well take pride in the hospital which serves so well the needs of the people, and the world may well be proud of the citizens of Newton, who so loyally support the hospital.

Texas Wants to be Heard.

To the Editor of THE MODERN HOSPITAL:

I note your editorial, page 241, April issue, entitled "Hurrah for Iowa." We feel in Texas that we also are entitled to some notice for the work now going on.

The 1913 Legislature enacted a bill requiring the building of county hospitals in the counties having cities of 10,000 population and over, and permitting the building of county hospitals in all other counties. Our law calls for special elections for bond issues, and we believe this is superior to the Iowa law in that it makes available the sum needed for the construction of the hospital at one time. We understand that some of the Iowa counties can receive no benefit from the special tax plan of building the hospital because a sufficient sum cannot be realized by this method.

The county hospital law went into effect on July 1, 1913. Prior to that time our association built the Walter Colquitt Memorial Children's Hospital for cases of bone tuberculosis at Galveston, and succeeded in getting the county and city of Dallas to build a $50,000 tuberculosis hospital, with a capacity of 75 beds.

Since the county hospital law went into effect five counties have taken action. Bexar county voted a $125,000 bond issue, and will probably join with the city of San Antonio, which voted an equal amount, in building a $250,000 hospital; Fort Worth and Tarrant county united in building a $40,000 emergency hospital; Kleberg, a county just created by the last legislature, voted a $35,000 bond issue for a hospital; Wichita Falls and Wichita county voted a $50,000 bond issue for a hospital; and El Paso county voted $30,000, making a total of $400,000 to be expended for seven hospitals. When we consider that the last year has been a poor year for bond issues, because of financial conditions, we think the record is very good.

An election is pending in Jefferson county (Beaumont) for an issue of $140,000 in bonds. Texarkana, Sherman, and many other cities are considering the hospital proposition, and additional bond elections will be held during the present year.

Is there any other state that can show this record?

R. J. NEWTON,
Executive Secretary Texas Public Health Association.

Priority in Fine Service.

To the Editor of THE MODERN HOSPITAL:

The Woman's Hospital and Infants' Home in this city (Detroit, Mich.) was the first institution here to inaugurate a social service department, and I am sending you the second annual report, which gives detailed information regarding the excellent work done. Apropos of the editorial in your April issue, I believe that Harper Hospital was the first here also to demand of its staff a pledge not to split fees, with a penalty of being dismissed from membership if found guilty.

W. P. MANTON,
President Medical Board, Woman's Hospital.

Wants the Next Convention.

To the Editor of THE MODERN HOSPITAL:

It occurred to me recently—in fact, I have thought of it many times, and the thought has again impressed me—whether our convention could be induced to come here next year. I know that some of you good Yankees would hold up your hands in holy horror at the thought of going so far away from your native heath, but, after all, it is not any further from St. Paul or Chicago to Halifax than it is from Halifax to St. Paul or Chicago, and it would be somewhat of a novelty for some of your high-strung men and women to come down to the quaint old city by the sea, and listen to the "deep-toned neighboring ocean as in accents disconsolate it answers the wail of the forest."

W. W. KENNY,
Superintendent Victoria General Hospital, Halifax.

Criminal and Criminally Ignorant Hospital Boards.

To the Editor of THE MODERN HOSPITAL:

Not long ago a woman, eminent in the nursing world, who has been at the head of a large municipal hospital, has traveled extensively and visited many hospitals in many lands, said she didn't believe that there were more than a dozen training schools for nurses in this country in which a university woman would think it worth her while to train. Probably there are not more than a dozen schools in the country that can say they are attracting a sufficient number of applicants of the right sort. These schools are usually those that have the highest requirements rather than the lowest. Among the many reasons given for the scarcity of applicants, one sometimes hears that it is the loose moral conditions that prevail in some hospitals.

From what I have been told by people who know, such could easily be the truth, for there are hospitals in every part of the country where no self-respecting person could possibly stay, and where conditions verging from free and easy social deportment to actually criminal proceedings exist.

One hears of these conditions from reliable nurses, doctors, and patients, but we are loath to expose these places for fear of giving the public a false idea of general hospital conditions and making it more difficult than ever to staff our institutions. Perhaps this is not a sufficient ex-

cuse for remaining silent concerning an evil condition that should be remedied.

Now, what is to be done about it? Are doctors and nurses who know about these plague spots going to continue to ignore the facts? Following is a quotation from a letter recently received from a man eminent as a doctor and as an administrator: "Communities in this country want good hospitals, and, if they don't have them, it is due to one of two conditions—either they have not the money to conduct their hospitals in an efficient manner, in which case the institutions ought to be closed up, or the failure is due to incapacity on the part of doctors."

Sometimes the directors are unscrupulous as well as incompetent, and sometimes the medical staff is of the same sort. In such case what can be done unless the public takes the situation in hand? Would it not be better, however, if the medical profession attended to it? Municipal hospitals may not always measure up to an ideal standard of efficiency and honesty, but it is usually the private, commercial hospitals where the most flagrant faults are found. If it had not been for the abuses existing in this class of hospitals in California, it is doubtful if ever the eight-hour working law would have been applied to pupil nurses in hospitals.

A superintendent of a private hospital told me that one year when the interest on money invested was only 40 percent, the stockholders considered it a very lean year. In this hospital, as in many others, the social behavior of some members of the staff was such that it was almost impossible to keep self-respecting nurses in the service, although good salaries were paid. There are eastern hospitals in the same category.

In the middle West I know of one hospital of which a former member of its staff says: "The hospital now is almost empty because the people of the ghetto (for whom the hospital was built) have a well-defined notion that to go to the ——— Hospital is almost suicide, and this is true, because they die when they go there, and they die because these criminal physicians have not only criminal intent, but are criminally ignorant."

Ought not the state board of health have authority to inspect all hospitals where charity patients are admitted? As some states now have nurse inspectors of training schools, who visit hospitals not only as critics, but as consultants, ought not the hospitals themselves be inspected by an expert medical administrator, who might be appointed from the American Hospital Association, and who could report to the local board of health, which should be empowered, if such reports were unfavorable, to corroborate such report, and to tell the hospital how to remedy its defects, or else compel it to close its ward to the helpless poor? Ought there not to be the utmost publicity in all institutions established for charitable purposes or in those that maintain nursing schools?

Following is a letter written to me by a trustee of a small hospital, whom I have never seen, but who, having been appointed to the training school committee, has been reading nursing literature:

"Small hospitals, with training schools that are designed by boards of trustees for utilitarian purposes, have much to answer for. Too many training schools are issuing diplomas that, in substance, certify to residence for a continuous term of months at some hospital where the holder has been a very satisfactory maid of all work. Laymen who constitute governing boards of hospitals that maintain training schools have not been impressed with the moral obligation they assume when inviting a young woman to enter the training school. The uppermost thought has been that it is an inexpensive and accepted method of paying for the care of sick people dependent on charity. The question of education seems to be incidental, and much is left to the pupils' power of mutual absorption during the day's routine. A few kindly disposed doctors give a few minutes' talk at regular periods, and at the end of a term of months a diploma in her hand gives her the privilege to invade the homes of the sick at so much per week, or perhaps to enter a hospital and assist in the making of nurses no better or worse than herself. Much good can be accomplished if an organized educational campaign could be conducted in the ranks of the laymen who govern hospitals. Thousands of these well-intentioned, conscientious men are big in their business world, but small in the knowledge that covers the details of hospital work, and utterly uninformed on the subject of nursing education. I have been in hospital work very actively for twelve years, and when I think of the utter ignorance of nursing education that blinded me for nine years, I wonder what use I have made of my eyes and ears."

I have quoted this letter to show what I believe to be the attitude of most people when they learn that there are other than the economic sides of hospital administration to be considered. Cannot THE MODERN HOSPITAL wage this educational campaign among trustees, boards of visitors, the medical staffs of every hospital in the country?

In the end the public would be better served if every hospital were closed until the public wanted it badly enough to support it adequately, and to see that, while ostensibly doing its work of charity, it was not a covering for criminal practices—for exploitation of patients or nurses.

It is my belief that there should be a definite code of ethics for the medical staff, and a superintendent backed by the board of trustees strong enough to enforce its observance.

A TRAINING SCHOOL SUPERINTENDENT.

The Educational Committee of the Pennsylvania State Board for Registration of Nurses, working in conjunction with a similar committee of the Pennsylvania State Nurses' Association, are striving to devise a system whereby all training schools of the city will realize the necessity of adopting a uniform course of instruction, so that their graduates will be equally capable of attending to the sick. The necessity of this system arises from the fact that a large percentage of the hospitals train their pupil nurses along some special line. A system is proposed whereby an affiliation may be accomplished of the special and general hospitals, thus assuring all pupil nurses a general training. Recognizing the necessity of special training in the technical nursing of contagious diseases, the Philadelphia General Hospital is considering a plan to send all pupil nurses from that training school, which is one of the largest in the country, to the Philadelphia Hospital for Contagious Diseases for a three-months' training.

The Sheltering Arms Hospital, Richmond, Va., recently celebrated its twenty-fifth year of service to the city's poor. This institution was founded by Miss Rebecca Peterkin and some of her friends at a time when there was no refuge, except the city home, where the destitute could find free medical or surgical treatment, regardless of religious faith, nationality, social standing, or age. It had an humble beginning, no endowment, no assured income, and only a meager equipment. At first not more than half a dozen patients could be cared for at a time, and these were attended by a single nurse, whose salary was paid by the little board of women responsible for the undertaking. The hospital now has 43 beds and 15 nurses are in daily attendance. Six hundred and fifty-three patients have been cared for in the last year, and 163 of them were strangers in the city. No charge of any kind is made.

NEW INSTRUMENTS and APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

A New Plaster of Paris Cutter.

BY DR. WALTER NEWMANN, HEIDELBERG.

A simple and comparatively cheap instrument for the quick removal of plaster of paris casts was devised some time ago by Dr. Newmann, and the instrument has been put on the market under the name of the "Rapid" plaster cutter. This plaster cutter works automatically, and cuts

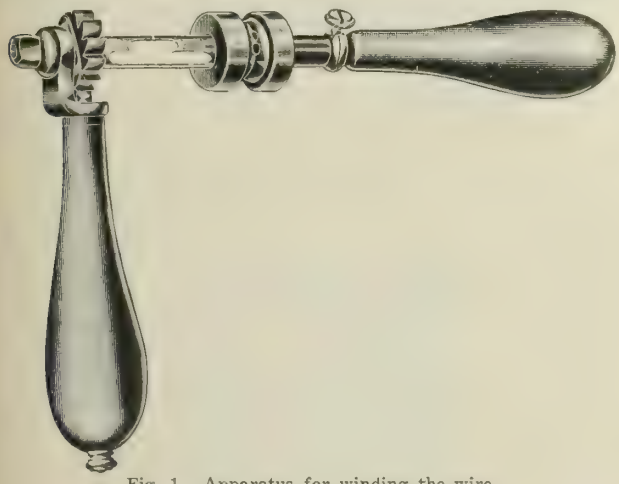


Fig. 1. Apparatus for winding the wire.

by means of a steel wire, which may be used repeatedly. The instrument consists mainly of two parts, the apparatus for winding up the steel wire and the steel wire (Fig. 1). When casts are to be removed, the surgeon proceeds in the following manner in applying the cast: After the

Fig. 2. Method of imbedding the cord.

cotton padding or stockinet has been put on and before application of the plaster of paris bandage, a double length of strong cord furnished with the instrument is laid on top of the stockinet or cotton padding (Fig. 2), with the ends extending about 6 inches at either end. This cord serves later to pull the steel wire through under the cast. In order to prevent the cord from becoming imbedded too tightly, it should be pulled back and forth before the cast is completely hardened. When the cast is ready for removal, cut off a piece of the wire (also furnished with the instrument) a little more than twice the length of the plaster cast, bend it on one end so it forms a small hook, slip it through a loop in the cord, and pull the wire through to the other end. After this bring the longer end of the wire back over the cast and fasten both wire ends

Fig. 3. Cutting the plaster cast.

into the handle of the instrument, work the lever back and forth (Fig. 3), and in a few seconds the cast is cut through.

The principal advantages claimed for the new cutter, as compared with the instruments in use now, are that the plaster casts are removed very quickly with the least exertion and without an injury or scratching to the skin of the patient, as there are no cutting parts put between the skin and the cast; and the apparatus is economical, as it is of practically unlimited durability, and there is no expense for sharpening scissors or knives, etc. The cutter will not cut through stockinet or padding, and consequently the wire must be drawn between the padding and the cast, but the harder the cast the better the wire will cut. This instrument has become very popular in clinics and hospitals abroad on account of its simplicity and usefulness.

An Electrical Substitute for the Pacquelin Cautery.

This apparatus seems to have certain advantages over the Pacquelin thermo cautery. While the points or burners are of the same shape as those used with the Pacquelin cautery, the apparatus requires no alcohol, cautery bulb, or other accessories which have always made the Pacquelin cautery more or less unreliable. The electro cautery, somewhat after the style of the ordinary cautery electrode, is used, but, instead of a coiled or some other form of platinum wire, the arrangement permits of heating a platinum bulb, round or oval point. The various shapes of tips are shown in the illustration (Fig. 1). The heating unit, consisting of platinum wire in spiral form, is insulated by means of the molded lava bushings. These

bushings prevent the heated wire from touching the walls of the platinum cover. As the platinum cover is air-tight, the heat generated by the coiled platinum wire is confined to such an extent that the cover becomes quite hot in a remarkably short time. Provision is made for easily changing the tip should occasion require, as a lock nut,

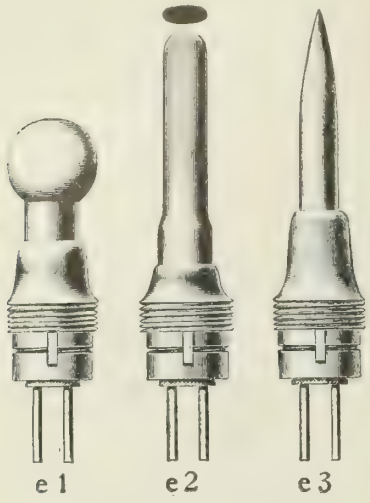


Fig. 1. Burners for electric cautery.

which is always within easy reach on the shaft of the handle, allows the removal of the tip, even though it is warm. While nearly any standard form of cautery transformer can be used for heating these tips, the one which the manufacturer furnishes has just the correct capacity to bring the heat to the right point. This is an advantage

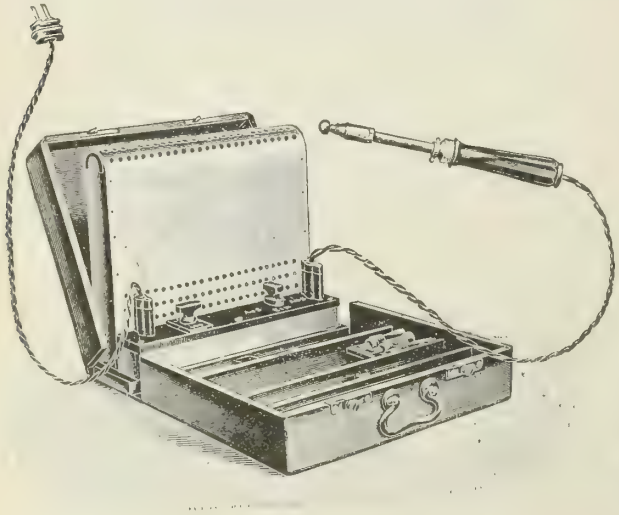


Fig. 2. Transformer for electric cautery.

for the reason that, if the cautery transformer is variable in its output, the nurse or assistant might easily burn out the cautery electrode by giving it too much current. This is one feature which has made electro cautery burners more or less unpopular in the past, but, if the amount of current could be predetermined in each case, and the transformer limited to the amount of current the burner would take, there would be no burned-out electrodes. The transformer (Fig. 2) is very efficient, as it consumes but five amperes of current at 110 volts, and can be used on either direct or alternating current. The entire equipment can be quickly set up or dismantled, and a compartment for each attachment is arranged in the case with the cautery transformer.

Steam Sterilizing Apparatus for Eye Knives, Scissors, Etc.

DESIGNED BY DR. STROHSCHEIN.

It is a well-known fact that many eye surgeons are not satisfied with the methods in use at present for sterilization of eye knives and other cutting instruments necessary for this work—namely, by immersing them in alcohol or by means of formaldehyd vapor—and a good many surgeons insist that their knives be sterilized by boiling before they consider them fit for use.

Sterilization by boiling or by ordinary live steam, however, affects the edges of knives, and discolors and often rusts the blades and makes them unfit for use. If the handles of eye knives are made of aluminum (which is

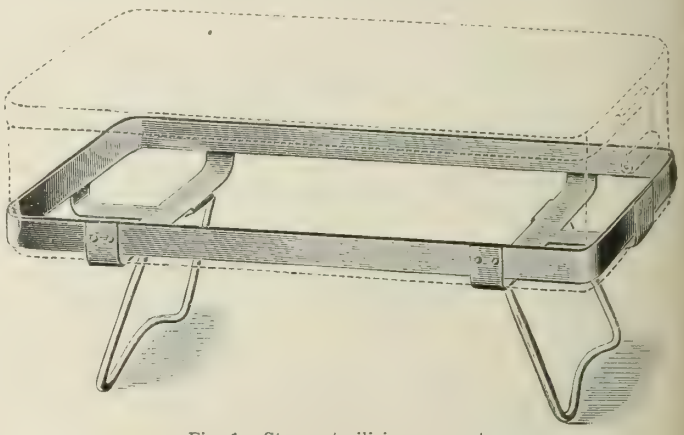


Fig. 1. Steam sterilizing apparatus.

very popular for this purpose on account of its lightness), boiling renders them porous and unsightly. It is for these reasons that surgeons have been looking for some new method of sterilization to overcome these defects, and this has been found in a new apparatus devised by Dr. Strohschein. The apparatus is a steam sterilizer, but, owing to its ingenious construction, does not damage the edges of the instrument, or discolor the blades, or destroy the handle.

The sterilizer (Fig. 1) consists of two separate boxes, one fitting inside the other. The cover C of the outer box A has a hole in the middle, through which passes a steam escaping tube, which is brazed on top of cover D of the

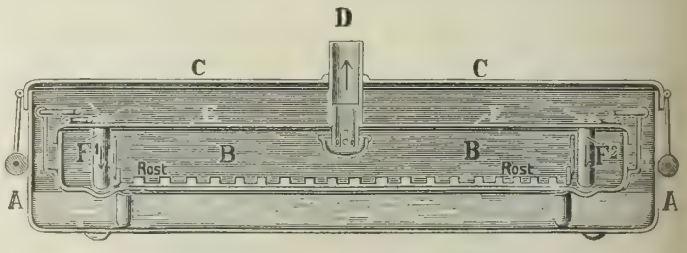


Fig. 2. Cross sectional view of steam sterilizing apparatus.

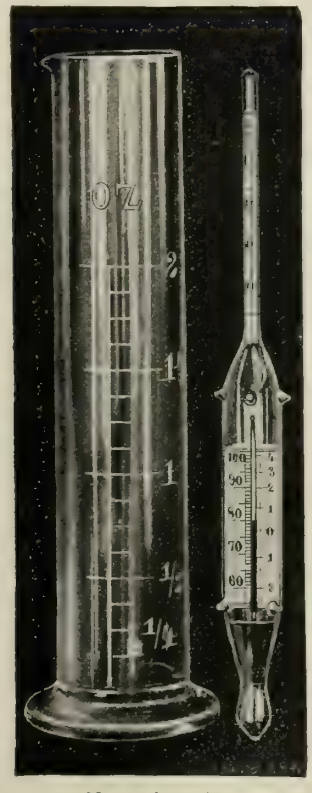
inner box, containing the instruments and a removable rack for knives, scissors, etc. In addition to this there are brazed in the cover of the inner box B four tubes which reach downward almost to the bottom of the inner box. The outer box is filled with water up to the bottom of the instrument container, and when the water is being heated the steam will pass up to the top of the outer container and down through the four tubes into the instrument container, and escape through the top of the outer or water container. The reason the edges of the instruments are not damaged, the blades not rusted or the handles discolored, is that the instruments are not in the water, and while the water is being heated the instruments take on

the same temperature, so that when the steam passes through the instrument container the condensation of the steam cannot settle on the blades, as is the case when instruments are sterilized by boiling or in the ordinary steam sterilizer. The time of sterilization is about twenty-five minutes, and therefore somewhat longer than sterilization by the present method in use, but it has been proven that by this method the instruments are rendered absolutely free from bacteria, kept dry and clean, and the edges are left in the same good condition as before sterilization.

The size of the outer box is 13x18½x8½ c. m., and the size of the inner box is 34x16x3 c. m. It will be seen that the outer sterilizer is fully large enough to hold any of the instruments used by the eye, ear, nose, and throat surgeons, and the apparatus can therefore be used not only as a sterilizer for eye instruments, but as a general sterilizer. A stand with folding legs is furnished with the outfit. The water is heated either by alcohol or gas burner, or an electric unit may be attached to the bottom of the water container. The workmanship is the best. The pans are each in one piece and seamless, the handles are riveted and brazed, and the whole outfit is heavily nickel plated.

A New Urinometer.

Among the apparatus used for urinalysis, the urinometer is one of the most important for the reason that it is frequently employed to determine conditions of health or disease, without reference to other determinations, under certain conditions where it is necessary to arrive at conclusions quickly. It seems, therefore, very important that



New urinometer.

the laboratory worker should have at his disposal an instrument which is absolutely reliable. It is a fact, however, that most of the cheap urinometers which are being offered to the profession are not made with the main point in view—that of accuracy—but rather with a view of how cheaply they can be produced and sold.

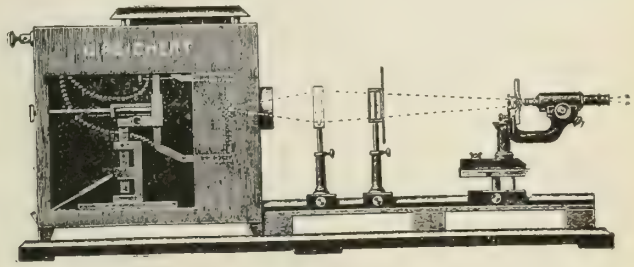
The careful laboratory worker will, therefore, be glad to hear that a standard urinometer has recently been put on the market by the Taylor Instrument Company, of Rochester, which seems to embody in itself all the requirements which the more exacting specialists in this work would demand.

The scale on this urinometer is hand written for the purpose of greater accuracy, and is combined with a thermometer and correction scale, so that very correct determinations of specific gravity may be made. It is standardized at 77° F. (25° C.) If the temperature of urine should be above 77° F., add; if temperature of urine be below 77° F., subtract, as noted on correction scale.

The urinometer jar has a wide base and is graduated. The air chamber on this instrument has around it small glass projections, so that the capillary attraction will not influence it, as it cannot become fast to the sides of the urinometer jar. The determinations for correction were made by actually weighing at different temperatures, as represented on correction scale. This is usually done by computation, but for greater accuracy a standard was made by carefully testing and determining each point, so that it would be a real standard urinometer.

Fluorescence Microscope.[1]

The fluorescence microscope is an instrument with which microscopic objects may be studied in fluorescent light, objects being rendered fluorescent by exposure to ultra-violet radiation. The apparatus serves to intensify the effect of ultra-violet light, which cannot be used for microscopic observation in the ordinary way owing to the feeble impression which it makes on the retina of the eye. Ultra-violet light has the remarkable power of causing the emission of fluorescent light from many substances on which it may fall. The color of the fluorescent light, as a rule, varies with the chemical nature of the fluorescing



Fluorescence microscope.

object. Observation by fluorescent light furnishes, therefore, a means of bringing into view differences in the appearance and constitution of objects which cannot be recognized by ordinary light.

Since fluorescent light appertains to the visible part of the spectrum, a fluorescent object can be viewed with ordinary objectives and eyepieces made of glass. The illuminating system, on the other hand, must necessarily consist of media which transmit ultra-violet light. A suitable light is furnished by an electric arc lamp burning with carbons. The carbons are of a special impregnated kind, emitting a light which is rich in ultra-violet rays. Lamps taking as little as 4 to 5 amperes will give satisfactory results with intensely fluorescent objects and when objects

[1]Reprint from the Physical Zeitschrift, vol. XII, 1911. C. Reichert: Das Fluoreszenz-Mikroskop.

Reprint from the Zeitschrift für Wissenschaftliche Mikroskopie und für mikroskopische Technik, vol. XXXVIII. O. Heimstaedt: Das Fluoreszenz-Mikroskop.

Reprint from the Bericht der Deutschen Botanischen Gesellschaft, vol. XXIX, 1911, No. 10. Ueber Reichert's Fluoreszenz-Mikroskop und einige damit angestellte Beobachtungen über Chlorophyll und Cyanophyll.

are viewed under a low magnification. The light emitted by the lamp is concentrated on the substage condenser of the microscope with a quartz lens.

To eliminate all visible rays from the fluorescent light which reaches the object, an absorbent light-filter is necessary. The light filter is of the kind designed by Wood and Lehmann. It has, however, been found an advantage to modify the usual arrangement, and accordingly the two fluid filter components are contained in a double trough, which is quite distinct from the solid uviol glass component. This is a great advantage in that the uviol glass may be used by itself after the removal of the trough with the solutions. In many cases—as, for instance, when feebly fluorescent substances are being viewed—this is a great convenience. With both filter components removed, the other parts of the fluorescence microscope are available for studying the physiological influences of ultra-violet light on living organism.

The microscope is provided with a quartz condenser, arranged to produce dark-ground illumination. This form of condenser is necessary to prevent ultra-violet rays from being transmitted from the object to the objective, as this would render the lenses of the objective fluorescent, and, by thus flooding the field of view with light, interfere with the observation. The method of dark-ground illumination affords the only means of obtaining satisfactory results, and this applies also to feebly fluorescent substances and to objects viewed under high powers. The dark-ground condenser is so arranged that it admits of rapid transition to illumination by transmitted light when the appearance of the object is to be controlled by ordinary microscopic examination. The apparatus is fitted with an iris diaphragm for this purpose. The objects should be placed or mounted on slides made of quartz, which is transparent to ultra-violet light. The cover-glass and all optical media situated above the object consist of ordinary glass.

The fluorescence microscope comprises the following parts: (1), a powerful radiant, rich in ultra-violet light; (2), an illuminating system capable of transmitting ultra-violet light; (3), a filter for partly or wholly absorbing the visible light emitted by the radiant; (4), a special dark-ground condenser, with quartz lenses; (5), an ordinary microscope, with objectives and eyepieces of the standard type; (6), an optical bench, with revolving microscope base for accommodating the above parts in perfectly centered alignment; (7), object slides of quartz or uviol glass to transmit ultra-violet light.

While too new for its full usefulness to be yet known, it may be stated that this instrument enables easy recognition of many forms of food adulteration, as ergot in wheat, cocoa shells in cocoa, etc.

After working for it for more than twenty years, the towns of Tonawanda and North Tonawanda, N. Y., are to have a joint municipal hospital. It was made possible by a philanthropic and public-spirited citizen, Leland S. DeGraff, who last fall offered to pay half the cost of a $40,000 building. Enough to bring the fund up to $50,000 has been raised and the work of construction is in progress.

Burt H. Whitely, a wealthy manufacturer of Muncie, Ind., has deposited securities with a local trust company, the income from which will amount to $10,000 a year and will be used to care for the charity cases of the city that require hospital treatment. The gift is conditional on all of the work being done at the home hospital, under the direction of Dr. George Andrews, who once saved the life of Mr. Whitely from an attack of anemia.

DEPARTMENT *of* NURSING

Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Newton, Mass.

The Training of the Psychopathic Nurse.

BY M. A. NUTTING,

Department of Nursing and Health, Teachers' College, Columbia University, New York City.

There is no point of view from which this subject may be approached that is not important, since it appears to be indisputable that every step forward in the development of better methods of diagnosis, of care and treatment, and of scientific study in this class of diseases must, to be truly effective, be accompanied by corresponding developments in methods of nursing. Equally true does it appear to be that measures of prevention through education or other methods cannot be well initiated and properly carried out without the aid of suitably trained women.

The first and largest need is in those hospitals, public and private, in which the mentally sick are cared for. While much progress has been made in these institutions, there is still obvious need for a good deal of improvement in the character of the nursing; it is indeed urgent in some of them. Until quite recent years the care of sufferers from mental troubles was largely custodial in nature, the word "attendance" describing fairly correctly the character of much of the work done for such patients. And, so long as mental troubles were little understood, their causes all but unknown, the cure doubtful, the chief essential in their care seemed to be to insure watchful and kindly attendance and protection. Nursing as we today understand it was not recognized as a necessity.

As we pass out of that stage of thought and begin to look on mental disorders exactly as we look on other forms of sickness, with possibilities of improvement or cure, depending on an intelligent and skillful treatment, good nursing becomes at once an essential and indispensable factor in the situation; for the diagnostic and therapeutic methods of modern medicine and surgery cannot be properly applied to those patients without the cooperation of a competent nursing staff. The medical inspector for the New York State Commission in Lunacy, Dr. William L. Russell, says that "nothing has contributed more to the hospitalization of asylums than the establishment in them of training schools for nurses."

Miss Annie W. Goodrich, whose duties as inspector of training schools in the state of New York call her into the state hospitals for the insane, points out interestingly the difference in the care of patients in two types of institutions—the one in which the work is largely done by attendants, and the other in which it is done by student nurses in training. She says the difference is marked, and it lies not only or chiefly in greater external order, precision, cleanliness, but in that all-pervading, yet almost indescribable, thing known as tone or spirit. The outlook, the point of view, of the student nurse is usually wholly

different from that of the attendant. In the one instance the effort is to keep the patient clean, comfortable, and contentedly occupied; in the other the interest is scientific as well as humane—it is concerned with the progress of the patient, with the effect of treatment, with those changes in attitude and behavior which may be very fine, very subtle, yet very significant. Such conditions, on which correct diagnosis and adjustments of treatment depend, are apt to elude any but the intelligently interested and closely observant student.

To those familiar with the dependence of physicians on nurses in our great teaching hospitals it will seem quite clear that wherever physicians are engaged in the serious study of mental disorders, in experiment and research, there will be needed to supplement their efforts the work of educated and carefully trained nurses. It is difficult to see how the proper study of insanity can take place, how physicians can carry through all the stages of experiment which appear to be indispensable to progress, without the constant use of those observations which hardly anyone but the nurse, who lives with her patients in the wards, is in a position to make. Dr. Richard Cabot, who has done much to stimulate us to better effort, has more than once noted the fact that we are not yet in our general medical work making full use of the observations for which we are peculiarly dependent on nurses. He says, "Especially in symptomatology and therapeutics the nurse has a far better opportunity than the doctor to make discoveries, because she sees so much more than he does of the effects of treatment and of the details of symptoms from hour to hour."

The proper nursing of the mentally sick, however, important as it is, is not the chief contribution which nurses may eventually make in this field of work. Now that we have revealed to us certain well-defined causes of insanity and others recognized, but as yet dimly defined, this whole work takes on a new aspect and a new life. To the knowledge that proper medical treatment and nursing of mental disorders insures a large hope of recovery is added the knowledge of infinitely greater significance—that causes are known and can be dealt with—and thus measures for the prevention of insanity are taking a prominent place in medical thought and action of the day. Among these measures, education stands in the forefront. It is the clearest of duties to get into use speedily such knowledge on this subject as is available and usable by the ordinary man or woman, and to do this in as many ways and through as many agencies as can be accepted for the purpose. One should have little hesitation in urging that nurses, and visiting and school nurses in particular, may be reckoned among the valuable agencies in getting before the people in a direct and simple way some of this needed information and instruction. For nurses do enter freely into homes, are usually welcome visitors, and may, if they are able, penetrate deeply into the problems of home and family life.

Armed with more definite and wider knowledge of the causes of insanity, and given some specific training in the observation and care of patients with mental disorders, they could take advantage, such as they are not now able to take, of the opportunities which lie actually in their daily paths. It seems probable that a good many unrecognized or neglected patients might be found and placed under proper care, and it seems certain that the influences and environment of children in their homes, which are likely to culminate later in the production of mental troubles, might be recognized and in some degree changed. From this standpoint alone the teaching by nurses of the vast and far-reaching importance of childish habits may be among the most fruitful of their daily tasks. Nor should we exclude from this obligation the vast army of private nurses, who, going from household to household, may find exceptionally valuable opportunities for presenting in the plainest and simplest way some of the important facts relating to the production and to the prevention of insanity—that chance for prevention which exists, according to Dr. Starr, in about 35 percent of all cases.

Pathetically little can be done in any of these directions until we have found some way of giving a suitable place to this subject in the regular training schools in which our nurses are educated. If you ask if some such instruction should form a part of the training of every nurse, the answer should be, Yes. First, because there is no way by which the nurse can insure that she will not have to meet and care for mental disorders as a complication of ordinary diseases in the course of her regular work, and, second, because of the increased importance of mental disorders and the larger place they are taking in medical and public interest. Insanity appears to be increasing. Dr. Russell speaks of it as a "rising tide." Dr. Rosanoff says that it is increasing at a rate which is about twice as great as the rate of increase of the general population. Whether the real increase is as great as it seems, this much at any rate appears to be true—the actual number of patients with mental troubles to be cared for is increasing everywhere. This fact alone makes an undeniable appeal to nurses, which through them should eventually react back on our schools of nursing; for, if these schools are to meet the needs of the times, they must carefully study the expanding field in which nursing knowledge is to be applied, enlarging their curricula and adjusting their methods of instruction to include new conditions of disease, or better understanding of old ones. The recognition of insanity as a disease seems, therefore, to have brought a new obligation to training schools.

This important special branch of nursing should not be left out of consideration, to be handled entirely independently of the general scheme of education for nurses; For such special training should at all times rest on a basis of general training. It should be placed at a stage in the education of the nurse when she is well grounded in her preliminary sciences, and has sufficient command of nursing principles and methods to be able to apply them under new and peculiar conditions; for it must constantly be kept in mind that many mental troubles are based on physical disorders, not infrequently of a grave nature; that many also are constantly accompanied by bodily ailments and weaknesses, and that the death rate in insanity is high. Every resource which the student nurse has learned to apply in her medical and surgical nursing may be called into requisition here. The student, therefore, should have had a considerable training in general nursing before proceeding to this special branch, more difficult, more complex, baffling often even to the most intelligent efforts and study, and making in all instances a new and special demand on faculties trained to comprehend in some degree the nature of these demands. Dr. Albert Ferris, president of the New York State Commission on Lunacy, very clearly shows what is needed. "Medical care," he says, "and nursing should be as complete as in the case of any other grave form of illness. The tenderest nursing is essential from the start, since the earliest treatment is often the most important," and he draws a charming picture of the conditions under which such nursing should be done, of the impressions and influences which should surround such

patients as a part of their treatment—an ideal psychopathic ward in fact.

In a few of our great teaching hospitals such departments have been established, and at the Albany, Bellevue, and Johns Hopkins hospitals, students from the training schools are taking a period of training in mental work as a part of their regular course. It is learned from Miss Taylor, the supervising nurse of the Phipps Psychiatric Clinic in Baltimore, that a good many of the students become so deeply interested in the work that they beg for longer training, and doubtless this is true of the other institutions. This is, of course, precisely what is looked for and desired. It is from such students, those who have shown particular interest, aptitude, and fitness—whose interest, in fact, impels them to seek further and more thorough preparation—that the special workers in this field of mental or, as it is here called, psychopathic nursing will be drawn. It should rank as one of the higher branches of nursing.

While as yet the hospitals with psychopathic wards or departments are few, institutions for the care of mental diseases are many, and abundant opportunities could doubtless be secured in some of them for instruction and training. There should be little difficulty in arranging for the admission of student nurses for a definite period—say, three or four months—in their senior year, and it is to be hoped that a good many of our older and leading training schools will ultimately effect some such relationship.

Probably the best next step would be the provision of a few really satisfactory courses of post-graduate study and training in mental nursing, something which would reach and interest the large body of graduate nurses—courses in the formation of which all the resources of the institutions offering them were called on, the instruction worthy of serious consideration, the practical work kept within rational limits for a student body. To such a scheme of instruction a social service department might contribute a valuable part. It seems probable that a psychopathic hospital with a well-organized teaching plan could receive both students in training and graduate students. But, of course, to do either in any adequate way, it must look far beyond the problem of its own current needs and approach the matter as an educational branch of work, to be handled as such.

The great importance of the subject from the standpoint of the individual and of our entire social system is a sufficient reason for an urgent effort to bring more and better trained workers to its problems. And the unusual interest and enthusiasm of those nurses who are already at work in this field is an incentive and an encouragement to those who would follow.

Nursing in Infancy and Childhood—The Premature Baby.

BY HENRY F. KEEVER, M. D.,

Assistant in Pediatrics Harvard Medical School; Junior Assistant Physician Children's Hospital, Boston, Mass.; Assistant Physician Newton Hospital, Newton, Mass.

A premature baby is one born before term. Few premature infants born before the twenty-seventh or twenty-eighth week live, or if the weight is less than two pounds, or the length less than thirteen inches. Morse says,[1] "The premature baby is not merely a small baby, it is an undeveloped baby. It is not ready to be born or to live under extra-uterine conditions. It is intended to float in warm water of constant temperature; instead, it has to be handled and exposed to air of all degrees of temperature. Its circulation is compelled to change from fetal to adult form months before it is ready. It is compelled to breathe air into lungs only partly ready for use. It must use digestive organs only partly completed, instead of obtaining nourishment through the circulation; it is not prepared for an independent existence, and has to depend for its life on organs only partly ready to perform their functions."

All the weaknesses of the infant at term are exaggerated in the premature. The function of the sweat glands is not developed and the heat centers are poorly developed. Consequently low temperatures are poorly borne. They lose heat rapidly, and a single chill may cause death. Their resistance to infection is very slight.

Morse further says that the two objects in the care of a premature infant are:

1. To keep the baby alive.

2. To develop the organisms to the stage reached at full term.

For this, two things are essential:

a. Maintain animal heat.

b. Provide suitable food.

The premature infant should be handled as little as possible. It should not be picked up nor disturbed, or regarded as a curiosity. It should be protected from light, noise, and handling.

Incubators will maintain a constant temperature, but ordinarily do not furnish a constant supply of fresh air. The best and simplest substitute is a padded crib and hot-water bottles. The temperature of the crib should be from 90° to 95° F. and the temperature of the room should vary from 80° to 85°. The crib should be protected from drafts.

A premature baby should not be bathed, because of the undue exposure and the tendency toward chilling. It should be oiled every second or third day and wrapped in a gown of quilted cotton. Absorbent cotton is best for diapers, which should be changed without removing the infant from its crib.

Breast milk is the ideal food for the premature. It should be expressed from the breasts by means of a breast pump or by massage, and fed through a Breck feeder at one-and-a-half-hour intervals. If breast milk cannot be obtained, then a whey cream mixture should be used, because of the solubility of the proteids.

A sudden drop in temperature is always a danger signal, and prematures are apt to die suddenly without apparent cause.

GASTRO-INTESTINAL INDIGESTION.

One of the commonest conditions the nurse will be called on to meet is gastro-intestinal indigestion, especially during the warm summer months. It is brought on by:

1. Improper food. The mixture is usually too high in fat, although one of the other elements, sugars or proteids, may be at fault.

2. Hot weather. Heat apparently reduces a baby's resistance, so that milk formulas which it can digest with ease in cooler weather, frequently bring on most acute digestive upsets during the heated term.

3. Neglect. Tends to reduce the general resistance of the child.

The most common symptoms are:

a. Temperature.

b. Vomiting.

c. Diarrhea, with frequent foul, green stools, containing curds, mucus, and sometimes blood and pus. When the last two elements are present, special precautions must be taken, as these cases are often of a highly infectious nature, and may easily infect other infants. The napkins and bedding should be kept separate and be thoroughly

[1] John L. Morse, "Care and Feeding of Premature Infants."

sterilized, and the nurse must be most careful about her personal asepsis, washing her hands thoroughly after every contact with the child.

4. Prostration is sometimes very marked, and in the severer cases the actual loss of weight and strength is appalling.

The treatment depends on the individual case. It is a good general principle to clean out the entire gastro-intestinal tract, preferably with castor oil. Should colon irrigations be needed, they can best be given with warm saline, using a dram of salt to a quart of warm water. The irrigation is most effective if given with a soft rubber catheter, French No. 20, continuing the flow of warm saline, temperature 100° F., until the wash water returns clear. The catheter must be thoroughly oiled and introduced six or eight inches into the rectum. Care must be taken lest it coil on itself.

CATARRHAL LARYNGITIS (CROUP).

This is caused usually by an extension of a catarrhal condition of the nose and pharynx to the larynx. The lumen of the larynx in infancy and early childhood is so small that even a moderate swelling of the laryngeal mucous membranes may cause sufficient stenosis to give rise to obstructive symptoms. These are:

1. Temperature.
2. Hoarseness.
3. Cough and dyspnea.

The child is as well as usual during the day, and as evening approaches becomes hoarse, with a slight cough. During the night it suddenly awakes with a harsh, metallic cough, and has great difficulty in breathing, which may last for an hour or two. On the following day the child seems well and bright, but it is common for the attack to recur the following night.

TREATMENT.

The treatment is to keep the child in a warm room of even temperature—72°; steam inhalations of compound tincture of benzoin, 1 dram to a quart of steaming water. This may be made most effective if the crib is covered with a sheet or an umbrella, and the steaming kettle placed beneath. Hot applications placed over the chest are often helpful in relieving the spasm. Care must be taken not to have the cloths too hot, and it is usually well to vaseline the chest before making any local application. When the stenosis and obstruction seem very great, relief may often be obtained by making the child vomit. Usually a teaspoonful of wine of ipecac is sufficient for this purpose.

MEMBRANOUS CROUP (LARYNGEAL DIPHTHERIA).

The onset is similar to ordinary croup, with dyspnea, cough, etc. The exciting agent is the Klebs-Loeffler bacillus, and these children, instead of improving after the initial attack, become progressively worse. There are no remissions as in ordinary croup. The treatment consists in giving generous doses of antitoxin, and intubation if necessary.

Some Efforts for Legislation.

IN MASSACHUSETTS.

"They've got a brand new organ, Sue,
For all their fuss and search,
They've done just as they said they'd do,
And fetched it into church."

This, it may be, is a few steps in advance of the position of the amendments to the registration law for nurses in Massachusetts. The amendments were returned to the Legislature by the public health committee on March 31, 1914, with the report, "No cause for legislation."

Many forces conspired to accomplish this, but the chief opponent used quite as much reason and logic in the arguments presented as did the old lady of the verse who bemoaned the times and saw the world going rapidly to perdition because, forsooth, a new form of worship had been introduced into her chosen church. The poor old lady of the verse was sincere, as was doubtless the opponent to legislation; and, like the opponent, she forgot the salient points in the issue—she forgot the meaning of worship and forgot for the moment its spirit, while the opponent forgot that these are not the early days of the previous century. The lapse of memory was even greater in the latter case because the opponent decried the objectionable points in the present law, forgetting that they are the result of the selfsame opposition that was exercised five or six years earlier by the same opponent.

Notwithstanding the fact that the proposed amendments (which were indorsed and recommended by the state board of registration for nurses) did not become law, the nurses felt that they gained ground and made headway.

The public press was favorable in its comments and made friends for the "bill." To quote, "The bill now before the public health committee aims to make a two-year course in a hospital training school of recognized merit a prerequisite. . . . This step is distinctly in the public interest. It is necessary for the protection of society that some fundamental standard of merit be established, of which the title of registered nurse will serve as an adequate guarantee. At present it does not, and we have a right to feel sure that those who attend the members of our families in sickness are properly qualified if we want such a guarantee," etc.

It may be there will be evidences of discouragement among the nurses, but while there remain the sick to be nursed back to health there is no time for discouragement and repining. It is the part of the good soldier to turn his weapons of warfare back into pruning hooks and ploughshares, and then keep them busy.

Maybe when our opponent and the old lady are again compared, it will be his turn to say:

"They've done just as they said they'd do."

IN NEW YORK.

The progress of the proposed amendments to the nurse registration law in New York has been well set forth in the *American Journal of Nursing*. Whether they shall be entered on the statute books as law remains to be seen, but certainly the nurses may be proud of "the company they keep." It speaks well for any cause to have it espoused by such men as Dr. John H. Finley, head of the state department of education, and Dr. Herman M. Biggs, state commissioner of health, who is reported as saying in the presence of a large gathering, "The adoption of the bill now before the Legislature is essential in order to put nursing on a plane of efficiency and standing, where it will attract women of the character and ability needed for such work."

Others who strongly indorsed the bill for the regulation of public nursing as a measure of protection to the public against the dangers of incompetent treatment were Prof. C. E. A. Winslow, curator of public health of the Museum of Natural History; Dr. Augustus Downing, of the state department of education; Dr. Winford H. Smith, formerly of Bellevue Hospital and now of Johns Hopkins University, and Miss Lillian D. Wald, of the Henry Street Settlement, and many representative men and women, physicians, hospital and training school managers, as well as employers of nurses.

Practically all the nurses are in favor of the bill—

superintendents of nurses and teachers of nurses, and those who have built up the schools, as well as the leaders in public health and social service nursing, and (as a correspondent in the New York *Evening Post* puts it) "sisters of charity, and others, whose whole time is spent in providing skilled nursing for the people of small means, and who would therefore not be likely to advocate any measure which would work injury to the poorest family. These women are asking, not that the unqualified woman should be compelled to earn her living in some other way, but that the law should so define the practice of nursing as to make it clearly known to the public who is or is not qualified to give expert nursing care to sick people, and to make it compulsory that women who hold themselves out to be nurses should fit themselves for this service by a certain term of hospital training."

Keeping Up the Standards.

There seems to be a wide interpretation of the "standards" we hear so much about in training school work. There is, too, a little impatience sometimes expressed or implied, or at least felt, at hearing this theme harped upon so constantly. But there need not be impatience or the slightest annoyance, for it is at once the slogan, the incentive, and the compensation of the nurse teacher. It means to her unremitting toil—not by the hour or the day, but by the night and the day and the year.

To attain and maintain her standards is her incentive, because she sees beyond the present work and knows that her compensation must come in the better care to patients. There are standards of admission and standards of work in training as well as standards for graduation and for work afterward, but to the conscientious nurse these all mean increased comfort and opportunities for the sick and they can mean nothing else.

Some one says, "Good nurses are born, not made, and give me the young woman of quick perception, keen intelligence, with good common sense and a good heart, and it does not matter about her education," etc. Very well, she is a prodigy, and there are so few in her class that it is not necessary to plan for her; moreover, she can take care of herself, but think what she might have become if she had had a little previous training.

Standards must be set for the young woman of average endowment by nature, because she is of the kind most commonly to be dealt with and trained. Other things being equal, she will become the nurse of greater attainments if she has something to begin with—a good education, with good breeding.

If it were possible to change our rallying cry for one of equal force in securing results, surely it would be taken up and reiterated all up and down the ranks until every sick man, woman, and child should feel its influence with comfort and renewed courage with vigor.

Heads of Training Schools and Members of Nursing Association to Hold Convention at Halifax.

The annual meeting of the Canadian Society of Superintendents of Training Schools for Nurses, of which Miss V. L. Kirke, superintendent of nurses of Victoria General Hospital of Halifax, is president, will be held in Halifax, N. S., on July 8 and 9 next. Addresses and papers on the following subjects have been promised: "Preliminary Training," "The Standard Curriculum," "Are Our Nurses' Training Schools Educative?" "Paid Teachers in the Training Schools," "The Care of Nurses," "Nursing Ethics," "The Management of the Smaller Hospitals," "Nurses' Residences and Their Supervision," "Nursing Principles Instituted by Florence Nightingale," "Nursing in Contagious Diseases," "Massage."

Those having the matter in hand are also hopeful of procuring something in the way of papers on nursing conditions in the Yukon and Labrador. There will be a question drawer and a literary table, for which a good supply of hospital and nursing journals and other literature has been promised.

The closing of this convention will be immediately followed by the opening of the convention of the Canadian National Association of Trained Nurses, of which Miss Margaret MacKenzie, superintendent of Victoria Order of Nurses in Canada, is president. This meeting will be held on July 10 and 11. On Sunday, July 12, a special meeting will be held in the interest of general nursing work.

UNIQUE HOSPITAL FOR NEW HAVEN.

Architectural Shape of Greek Cross Gives Every Room an Outside Window.

The $250,000 Physicians and Surgeons' Hospital to be erected in New Haven, Conn., the coming year will be built in the form of a Greek cross, every room to be an outside room. It is to be of gray Portland cement, rough finished, with red trimmings and green tile roof, and will be four stories high. The total capacity of the institution will be sixty-six patients, twenty-eight in the wards and thirty-eight in private rooms, but the plans have been drawn in such a way that a wing containing room for 100 beds can be added at any time and still all of the rooms will be outside ones. On the first floor are located the boiler room, the laundry, apparatus for the administration of the various kinds of physiotherapy and mechanotherapy, including dry hot air, electricity, hydrotherapy, mechanical vibration, x-ray, electric light, etc. A lecture room, with proper equipment for illustrating lectures, will also be provided on this floor. The second floor will contain the administrative offices, four 4-bed wards, two 6-bed wards, fourteen rest rooms, a dark room for the examination and treatment of patients suffering from diseases of the eye, ear, throat, and nose, the general reception room, a consultation room, and four private rooms, with private bath room connected. The third floor is given up to private rooms of different grades, dressing rooms for special nurses, and the head nurse's private office. On the fourth floor will be the operating suites, consisting of two surgical operating rooms, two etherizing rooms, two surgeons' preparation rooms, a surgical nurses' preparation room, and storage room for surgical instruments and dressings. The roof will be utilized for kitchens, the dining rooms, the solariums, and separate recreation rooms for patients, nurses, and servants. The elimination of noises has been given much consideration. All of the private rooms will be surrounded by double gypsum block walls, and the entrances will be provided with two doors—one of wood hung on the inside for common use, and the other of metal filled with asbestos hung on the outside. The floors of the building will be covered with heavy cork linoleum cemented to the understructure. The ventilating system is said to be excellent. Each room will have an individual flue. It is expected that this new hospital will be ready for occupancy early in the fall of 1915.

In the death of Mrs. Abram H. Cushman, of Peabody, Mass., who enjoyed the income of a trust fund of $40,000 during her life, that amount reverts to the J. B. Thomas Hospital.

QUERIES *and* ANSWERS

Covering for Hot Pipes.

To the Editor of THE MODERN HOSPITAL:

Do asbestos coverings on pipes have any other advantage than saving in loss of radiation of heat?

A. P. M. H., Philadelphia, Pa.

None, except to cut down the dangers of fire due to overheated pipes, provided the work is properly done and the insulation carried through all partitions and outlets.

To Keep Air in Circulation.

To the Editor of THE MODERN HOSPITAL:

During the hot season of the South, to keep the air in circulation in a ward 42x16 feet, with a 16-foot ceiling, having three large windows on the west side and two on the south end, and two doors opening into the corridor on the east side, can you give us advice on which kind of electric fans to install—ceiling fans with four blades of 21 inches each, or the oscillating 12-inch circular electric fans, and how many of each?

We enjoy THE MODERN HOSPITAL very much, and you may not find our name on your list of subscribers, as a friend made us a Christmas present of your magazine, and it reaches us monthly.

MENIA S. TYE, R. N.,
Superintendent Sparks Memorial Hospital, Fort Smith Ark.

The better results will be obtained by the use of the ceiling fans, as described, dropped from the ceiling to approximately 9 feet from the floor. It would require at least four fans of the ordinary type to induce sufficient movement of air to afford relief in hot weather. If beds are arranged on both sides of the ward, the fans would better be evenly spaced down the center of the ward. The fans would be more efficient if the blades were inclined slightly upward from the center—say, about 3 inches higher at the tips than at the center. In case this is done, the fan should be 8 feet above the floor.

LOUIS R. CURTIS,
Superintendent St. Luke's Hospital, Chicago.

Water Supply for the Hospital.

To the Editor of THE MODERN HOSPITAL:

Kindly inform me on the following points: What is the best or most serviceable wood for use in constructing a water tank, and which is the least expensive? What do drillers charge for boring for water, or do they have any set scale of charges? Is a windmill a satisfactory method of pumping water for storage? We have about thirty people under our roof on an average, with about twenty taps in the building and grounds; what would be an adequate sized tank to insure a water supply that would be ample. J. C., Norfolk, Neb.

1. Cypress, fir, red cedar, tamarack, and pine are the best tank material in the order named. Lumber prices vary in localities according to distance from source, but the last two woods should be the cheapest. If the tank is exposed to the elements, it would be an economy to treat the outer surface with creosote, except where cypress is used. You might look into the question of building your tank of metal, with silica lining. The Pfaudler Company, Rochester, N. Y., which makes these tanks for hospital laundry chutes and for beer vats in breweries, has had its attention called to this as another field for its excellent material.

2. Drillmen charge anywhere from 50 cents to $2 per foot for striking water, according to local conditions. United States geological report gives a 92-foot water average in your part of the state.

3. Unless the storage or reservoir capacity is ample to tide over windless periods, a windmill is not reliable. A small gasoline engine belted or geared to the pump jack is better and costs less to install.

4. A 100-barrel tank should serve your needs, and at an elevation of forty feet would give a pressure of thirty to thirty-five pounds at the faucet.

Counterbalance of Elevators.

To the Editor of THE MODERN HOSPITAL:

Please give me the needed ratio of counterbalance as per inclosed figures, and oblige?

W. E. D., Findlay, Ohio.

The proper counterbalancing of electric elevators is an item of great importance, and the amount of counterweight is figured from the average load that the car carries. At the speed you give, if the car weighs 2,000 pounds, the counterweight should be 50 percent greater, which would place a lifting strain on the motor of only 1,000 pounds with the car loaded at maximum, and the same figure would apply to the downward trip with no load. Would advise you to get in touch with the manufacturers of your elevator, if possible, and not trust such a job of conversion to a mechanic not well versed in elevator construction.

When to Buy Hospital Cotton.

To the Editor of THE MODERN HOSPITAL:

Please advise what is the best time of year to buy hospital cotton? We always receive a large number of offers on this product during the spring months, but prices seem to be no better than in September. Is there any real advantage in buying now?

CLAUDE A. DOTY,
Superintendent Bell Memorial Hospital, University of Kansas, Rosedale, Kan.

Prices of cotton products are largely subject to the manipulations of the New York cotton gamblers. The New England mills depend for their economical operation on the ability of their managers to successfully compete in these gambling transactions. Sometimes the destination and disposal of the whole crop of a year are arranged before the seed are planted. Under these conditions it will readily be believed that the time of year has very little to do with prices. Sometimes raids are made on the market in the winter, and they may be made at any time. Sometimes the mill owners wake up and find that the crop is practically cornered and that they have to pay the artificially fixed prices. Of course the boll weevil, droughts, and a dozen other factors are concerned in the manipulation, just as the wheat pit makes use of all these factors.

The best way for a hospital to do is to get in friendly touch with one of the mill representatives. I have personally found that these men are to be relied on. Get them to keep you posted about prices. I have bought half a million yards of gauze at a time and five tons of absorbent cotton on the advice of one of these men, and I never regretted it. You can make a contract for delivery, so much at a time, as you need it, bills to be rendered as deliveries are made. You will agree in the contract to take the total amount of the contract within the specified time. Have a clause in your contract protecting you against a

raise in the price, and giving you the benefit of any fall. I have bought enough for two or three years in this sort of contract.

JOHN A. HORNSBY.

Cost of Electric Service.

To the Editor of THE MODERN HOSPITAL:

Since our hospital was built we have been purchasing electricity from the city plant at 10 cents a thousand watts, but a manufacturing concern which has just put in a new power plant offers to supply us at 6 cents a thousand if we will pay for the connecting wires to their building and a meter; but we have been using alternating current and theirs is direct current. Would you advise making this change, and would we have to change any of our present wiring or equipment in order to utilize this different current? What does a meter cost? Our current bills have been averaging $21 per month, and the directors are in favor of making this change.

B. B. L., Peoria, Ill.

A saving of $8.40 per month is well worth while, provided the service is the equal of that which you are now receiving and is available at all hours and on holidays, and not liable to shut down and leave you in the dark.

You would require no change in wiring or equipment, provided the voltage is the same as at present, nor would different lamps or heating appliances be necessary; but alternating current motors will not operate on direct current circuits and vice versa.

A meter will cost between $14 and $18, according to capacity.

Do not make a change like this without a written contract covering the quality of service to be given.

TUBERCULOSIS HOSPITAL CONSTRUCTION.

London's Local Government Board Issues Bulletin Setting Forth Principles of Architecture, Including Costs.

Plans of hospitals and sanatoriums for tuberculosis patients are occupying the serious attention of architects, administrators, and health officers abroad as well as in this country. The local government board of London has just issued a bulletin, prepared by its architect, Mr. Brook Kitchin, and its medical officer, Dr. Newsholme, for the purpose of aiding in the construction of these special hospitals. Much attention is given in the bulletion to the cost of such structures, showing how inexpensively they may be put up on short notice.

The unit taken has been 100 beds, with 10 additional beds in outside shelters. Dealing with the selection of a site, it is advised that this should be sufficiently large to permit of open-air employment of a considerable number of patients. If land is available at a low cost, it is desirable that a site of fifty acres should be provided for 100 patients, but twenty acres may suffice for 100 patients where land is difficult to obtain or its cost high. In all cases at least one-fifth of an acre per patient should be allowed.

The plan of the building depending on the stage of disease of the patients to be admitted, the cases to be accommodated are classified into groups as follows: (A) cases in which permanent improvement or recovery may usually be anticipated; (B) cases in which only temporary, though possibly prolonged, improvement may be anticipated; (C) advanced cases requiring continuous medical care and nursing; (D) cases requiring special observation.

The sleeping accommodation provided for patients is commonly one or more of the following types: (1) single-bedded rooms, for patients requiring a considerable amount of nursing; (2) two-bedded rooms, suitable for all types of patients except those just referred to; (3) beds on both sides of a ward as in the ordinary hospital; (4) shelters, single- or double-bedded, suitable for patients in groups A and B, who are able to be up and about all day.

Accompanying the bulletin are the following plans: (1) block plan of a 100-bed sanatorium with three separate pavilions; (2) block plan of a 100-bed sanatorium with a single pavilion; (3) ground plan of staff block; (4) first floor of staff block; (5) plan of dining hall and kitchen block; (6) plan of nursing pavilion for 36 beds; (7) plan of convalescent pavilion for 32 beds; (8) plan of two-storied pavilion for 100 beds; (9) plan of two-storied pavilion for 100 beds (alternative design).

The accommodation should be so arranged that a floor space of at least 64 square feet will be available for each patient; the distance between the centers of the heads of any two adjoining beds should not be less than eight feet measured along the wall behind the heads of the beds. Patients' rooms should not be less than 8 feet 6 inches high; wards should be higher, but may be carried partly into the roof and ventilated by openings in the gable ends. Doors should be made on the "stable-door" pattern, so that in inclement weather the lower portion may be closed while the upper portion is left open. They should be constructed in the form of French casements, with a clear opening of not less than 3 feet 6 inches, so that beds may easily be wheeled through them. Windows should preferably be of the casement pattern and hung "to fold" without mullions. Baths should be provided on a scale of about one to twelve patients, and water closets on the same scale. Spray baths may also be provided. If veranda accommodation is not quite adequate, day shelters, which should be of inexpensive construction, will be needed.

In view of the importance of continuous open-air treatment, patients should not be encouraged to collect in a recreation room, except for a very limited time or on special occasions. It is therefore suggested that the dining room would suffice for purposes of recreation, lectures, etc. It will usually be unnecessary to heat the patients' quarters, excepting the dining hall and some of the rooms for patients requiring special nursing, and a system of low-pressure hot-water heating will be found most economical for this purpose. Electric lighting should be employed where electric current is available or can be economically produced. Where, owing to local circumstances, the use of brickwork would be economical, cheap bricks may often be employed, faced externally, if necessary, with rough-cast or cement. Walls in exposed positions should be of hollow construction. In some districts other materials may be less expensive and may be employed, such as steel framing carrying terra-cotta slabs, or concrete slabs or blocks plastered internally and cemented externally, or timber framing lined internally with asbestic sheeting or expanded metal lathing plastered with a hard setting plaster, rough-cast or coated externally with weather-boarding chemically treated.

Plans and specifications for a new sanatorium at Washington, D. C., have been submitted to the incorporators of a company for the new Chevy Chase Sanatorium in the fashionable suburb of the city. This site has been chosen by the members of the medical profession for the open-air facilities. It will be a modern affair, of central administration offices, with ample verandas and sleeping porches. The interior will consist of large sun parlors and lounging rooms. The building will be three stories and cost $20,000. George P. Hales is the architect.

AMERICAN HOSPITAL ASSOCIATION

Photographer in Pennsylvania Claims to Represent American Hospital Association—Association Has No Such Representative.

To the members of the American Hospital Association:

I am informed that a man in the state of Pennsylvania is visiting hospitals, taking photographs, and claiming authorization from the American Hospital Association. The president has instructed me to inform you that the association has no traveling representative, and has not authorized anyone to take pictures for the next convention.

H. A. Boyce, Secretary.

Noncommercial Exhibit at St. Paul.

Hospital workers are constantly improvising instruments, apparatus, and equipment of every conceivable kind to meet their peculiar needs. The best things on the market today and the most useful were the makeshifts of yesterday, designed by ingenious hospital workers to meet some immediate and pressing demand, without ever a thought that tomorrow would see them eagerly welcomed by the hospital world. Therefore the hospital people should take great interest in the noncommercial exhibits at our conventions, and should contribute to them.

Everyone who has anything to show, no matter how simple, and the simpler the better, should write to Miss Lydia Keller, Cobb Hospital, St. Paul, chairman of the committee, and make arrangements to take it or send it to the convention. There are no charges of any kind, and those who attend the convention are always deeply interested in new things.

Don't say, "But it is such a simple little thing!" So much the more reason why other hospital people should know about it.

Officers of the American Hospital Association Issue Circular on Importance of Organization.

Economy and efficiency are two indispensable combinations in hospital work today. Trustees demand that their superintendents shall have an up-to-date knowledge of how to operate the different departments of a hospital to obtain highest efficiency with the least expenditure of the public's money.

The object of the American Hospital Association is the promotion of efficiency and economy in hospital management. The problems and difficulties of hospital management are so many that no superintendent, no matter how resourceful, can solve them for himself. Discussions and counsel with others is absolutely indispensable. The great agency that meets this need is the American Hospital Association. Its membership is the best of hospital workers. Its helpfulness is evidenced by its steady annual growth. The last meeting held at Boston was the largest and best in its history. The one this year at St. Paul, from August 25 to 28, will be still larger and better.

Already, over four months in advance, three hundred have applied for conveyance to the convention in the association special train from Chicago. Can any hospital superintendent afford to stay outside this band of hospital workers? Can any do without its help and inspiration? Can any member afford to miss the St. Paul meeting?

Hospital boards are now picking their superintendents from the members of the association. If you are not already a member, send your name to Dr. Boyce, secretary, Kingston, Canada. You will promptly receive a copy of the transactions of the Boston convention. Do it now.

American Hospital Association Growing at the Rate of Nearly 1,000 for This Year—Additional List.

The new spirit of cooperation to speed the growth of the American Hospital Association seems to have taken firm hold, and it is most encouraging for hospital efficiency all along the line to see the new members coming in. Why not set the convention attendance mark at 1,000 members—if not at St. Paul, at San Francisco in 1915?

Below is the list of new members since last publication. There are seventy names. If this rate can be maintained, the St. Paul meeting will be great.

Sister Mary Austin, superintendent of nurses, St. Francis Hospital, Smiths Falls, Ont.; Dr. Charles Bowman Bacon, superintendent New York City Hospital, Blackwell's Island, New York City; Miss Sarah C. Barry, superintendent of nurses, Providence City Hospital, Providence, R. I.; Dr. Donald E. Baxter, assistant superintendent City Hospital, Minneapolis, Minn.; Dr. Charles Boldman, hospital physician, Tuberculosis Preventorium for Children, Department of Health, New York City; Miss Claudia M. Boskill, superintendent of nurses, Kingston General Hospital, Kingston, Ont.; Dr. Joseph M. Burnett, hospital physician, Providence City Hospital, Providence, R. I.; Dr. Henry A. Christian, hospital physician, Peter Bent Brigham Hospital, Boston, Mass.; Miss Bertha Cohen, superintendent Mt. Zion Hospital, San Francisco, Cal.; Dr. Lewis A. Conner, hospital physician, New York Hospital, New York City; Dr. Dwight E. Corie, hospital physician, Union Hospital, Fall River, Mass.; Dr. Thomas S. Cullen, hospital physician, Johns Hopkins Hospital, Baltimore, Md.; Dr. James Allmond Day, superintendent and owner James Allmond Day Hospital, Jacksonville, Ill.; Dr. Thomas Alan Devan, assistant superintendent Peter Bent Brigham Hospital, Boston, Mass.; Dr. E. G. Dittmer, treasurer and trustee Park View Hospital, Manchester, Ia.; Miss Kathleen A. Dowd, superintendent of nurses, Wm. Backus Hospital, Norwich, Conn.; William A. E. Drescher, trustee Rochester General Hospital, Rochester, N. Y.; Dr. Chas. Alfred Dukes, hospital surgeon, Samuel Merritt Hospital, Oakland, Cal.; Dr. D. Gordon Evans, assistant superintendent Queen Alexandra Sanatorium, Davos Platz, Switzerland; Miss Sara E. Foulks, superintendent Davenport Hospital, Davenport, Ia.; Dr. A. C. Frost, hospital physician, Ladysmith General Hospital, Ladysmith, B. C.; Dr. John H. Graves, member Hospital or Charities Association Francis Hospital, San Francisco, Cal.; Dr. W. D. Haggard, hospital physician, Vanderbilt and St. Thomas Hospitals, Nashville, Tenn.; Dr. Frederic Hagler, hospital surgeon, St. Louis City Hospital, St. Louis, Mo.; Mr. Henry L. Hall, governor Muhlenberg Hospital, Plainfield, N. J.; Mr. Geo. P. Hart, trustee New Britain General Hospital, New Britain, Conn.; Mrs. Mabel Hills, superintendent Parkersburg City Hospital, Parkersburg, W. Va.; C. Floyd Haviland, assistant superintendent Kings Park State Hospital, Kings Park, Long Island, N. Y.; Miss Susan E. Holmes, superintendent Dr. Abbott's Hospital, Minneapolis, Minn.; Miss Astrid Hofseth, R. N., superintendent Tuomey Hospital, Sumter, S. C.; Dr. Francois L. Hughes, hospital surgeon, St. Luke's Hospital, Philadelphia, Pa.; Miss Edith R. Jeffries, first assistant superintendent Saginaw General Hospital, Saginaw, Mich.; Dr. Wm. A. Jenkins, hospital physician, Louisville City Hospital, Louisville, Ky.; Miss Eliza Johnson, superintendent of nurses, Louisville City Hospital, Louisville, Ky.; Dr. Arthur P.

Jones, hospital surgeon, Pawtucket Memorial Hospital, Providence, R. I.; Dr. John W. Keefe, hospital surgeon, Rhode Island Hospital, Providence, R. I.; Mrs. Ira A. Kip, Jr., trustee Orange Memorial Hospital, South Orange, N. J.; Dr. W. H. Lake, assistant superintendent Society of Lying-in Hospital, New York City; Dr. H. R. Lathrop, superintendent and owner Casper Private Hospital, Casper, Wyoming; Miss Mabel E. Lamberson, R. N., assistant superintendent Central Maine Hospital, Lewiston, Me.; Dr. Mary C. MacInnis, superintendent Oaks Sanitarium, Los Gatos, Cal.; Dr. Jackson M. Mills, hospital physician and surgeon, New York City; Miss Mary B. Miller, superintendent of nurses, Wilkesbarre City Hospital, Wilkesbarre, Pa.; Dr. David C. Morton, hospital physician, Louisville City Hospital, Louisville, Ky.; Miss Anna C. Maxwell, superintendent of nurses, Presbyterian Hospital, New York City; Judge C. H. Nye, trustee Painsville Hospital, Painsville, Ohio; Dr. Geo. A. Peck, trustee New Rochelle Hospital, New Rochelle, N. Y.; Miss Florence Potts, superintendent Hospital for Sick Children, Toronto, Ont.; Miss K. M. Prindiville, superintendent Joseph Lawrence Free Public Hospital, New London, Conn.; Miss Loise M. Powell, R. N., superintendent of nurses, University Hospital, Minneapolis, Minn.; Dr. A. E. P. Rockwell, hospital physician, Worcester Hahnemann Hospital, Worcester, Mass.; Dr. Cary P. Rogers, surgeon, St. Luke's Hospital, Jacksonville, Fla.; Miss Maude L. Rowland, assistant superintendent Saginaw General Hospital, Saginaw, Mich.; Dr. K. I. Sanes, surgeon, Western Pennsylvania Hospital, Pittsburg, Pa.; Dr. Asa N. Sargent, hospital physician, Salem Hospital, Salem, Mass.; Dr. C. H. Schaeffer, trustee Allentown Hospital, Allentown, Pa.; Dr. N. H. Scheldrup, surgeon, Swedish and Deaconess Hospital, Minneapolis, Minn.; Mr. David A. Smith, supervising trustee Dr. W. H. Groves L. D. S. Hospital, Salt Lake City, Utah; Mr. Morley A. Stern, trustee Rochester General Hospital, Rochester, N. Y.; Miss Kathryn J. Ulmer, assistant superintendent Noble Hospital, Westfield, Mass.; Miss Lydia R. VanLuvanee, superintendent of nurses, St. Peter's Hospital, Helena, Montana; Mr. Hiram Walker, trustee Walkerville General Hospital, Walkerville, Ont.; Mr. Allen Wandwell, trustee New York Red Cross Hospital, New York City; Dr. Joseph D. Weis, physician, Touro Infirmary, Charity Hospital, New Orleans, La.; Dr. Meyer Wiener, surgeon, Jewish Hospital, St. Louis, Mo.; Miss Annie A. Williamson, R. N., superintendent of nurses, California Hospital, Los Angeles, Cal.; Miss Alma M. Viehdorfer, R. N., superintendent Allentown Hospital, Allentown, Pa.; Miss Mary Workman, superintendent of nurses, All Saints' Hospital, McAlester, Okla.; Miss Katharine Weber, R. N., superintendent of nurses, Olney Sanitarium, Olney, Ill.; Miss Anna K. Younglove, superintendent Elyria Memorial Hospital, Elyria, Ohio.

The announcement comes from Portland, Ore., that a private open-air sanatorium for the treatment of persons afflicted with tuberculosis will be established at the town of Bend in that state in the near future. Plans already perfected provide for a one-story building 200 feet long, the open rooms to be arranged on the "Scotch butterfly" plan. The first unit of the building is to accommodate 20 patients, and cottages will be added as required. Provisions have also been made for a poultry house, a modern dairy, and facilities for entertainment and amusement. The site, which is in the foothills of snow-clad mountains, being at an altitude of 3,600 feet, in a place sheltered from wind and dust, is said to be ideal. In any case, however, in which it is found that the mountain climate is not agreeable, it is the intention of the promoters to remove the patient to Portland, where arrangements will be made to care for such cases. Dr. Edward Allen Pierce, of Portland, will be the managing director. Dr. Urling C. Coe, of Bend, will also be associated with the institution.

A company with a capital stock of $200,000 has been incorporated in California under the name of the Bellevue Hospital Association for the purpose of building and operating a hospital in Los Angeles.

HINTS FOR HOSPITAL SUPERINTENDENTS.

A sustained policy of cheerfulness throughout a hospital, in mental as well as physical ways, while highly contagious in itself, is the best disinfectant one can have against trouble. The results, while they may not be itemized, make no small showing in the annual report.

Where gasoline and kerosene are kept in the building, the gasoline can should be painted a brilliant red and the coal oil container a bright green, and they should bear their respective content names stenciled on them. Insurance statistics are replete with the disastrous consequences of getting the wrong can. Better still, fire apparatus companies sell distinctive containers for inflammatory fluids.

Don't keep the salesman that calls on you waiting an unnecessary length of time. If he has nothing of value, need, or interest to you, dispose of him quickly, but courteously, for if a manufacturer or supply house is paying a traveler 80 cents an hour in salary and expense, and you consume a needless fifteen minutes of his time, somewhere, sometime, somehow, you or some other hospital will have that 20 cents figured in the invoice.

Learn to read your gas and electric meters, and learn the meaning of cubic feet, watts, and kilowatt hours. Don't take the gas or power company's word for things. If you have reason to believe that your bills are excessive in proportion to the rate charged, you have the right to demand that your meter be tested for correctness in any city where electrical inspection is maintained.

Quite often it is found desirable to replace small dressing sterilizers with larger equipment, and the question of advantageously disposing of the present one is important. Barber shops will be found to be receptive customers for the small and medium-sized ones, and they are apt to bring a better second-hand price when sold through this channel than any other.

The third Thursday of the third month should be declared oiling day in the hospital, and a half hour should be given to the lubricating of a host of minor things that need it around the building, such as door hinges, locks, wheel stretchers, casters, elevator doors, operating tables, dumb waiters, etc. A good grade of sperm oil should be used, and it will be surprising to note the number of small noises, squeaks, rasps, etc., that will be on the missing list for the next three months. Don't put this matter off until Friday, the 13th, of next leap year.

The necessity of refreshing white enameled equipment, walls, woodwork, metal, etc., will be avoided, except at long intervals, if a small bottle, about 6-ounce, wide neck, is kept handy, filled with a rather thick consistency of enamel and provided with a camelshair brush running through the cork. When a chip occurs, flow enough of the thick enamel into the scar to fill it even with the raw edges, and let harden for two days; then rub with the moist palm for several seconds until the shade of the patch harmonizes with the tone of the general finish.

A good many hospital administrators fail to realize how much waste is connected with badly cared for refrigerators. Foods absorb smells and bad air. The refrigerators or ice boxes ought to be cleaned thoroughly every day with hot water and a good, pure soap. Then they should be rinsed out with hot water, without the soap, to

take away the soap smell. Refrigerator makers like to connect their brine-cooled refrigerators to the sewage system for a drain. This is not a good plan, because the very best traps give off odors. In the ice-cooled boxes there must be a drain for the melting ice, of course, but this empties to a pan underneath that can be cleaned every day, but the sewer trap cannot be. Better do without a drain and have someone, an orderly or man servant, in full charge of all the ice boxes, and hold him responsible for their being kept clean and dry. Praise him once in a while if they are nice and sweet and clean. Let him know that you think his job is of some consequence, and he will do a hundred percent better.

It is proposed to almost entirely reconstruct the older buildings of Bellevue Hospital, New York. Enough money will be asked of the Board of Estimate to replace the surgical ward for children, the tuberculosis ward, the contagious disease division, the psychopathic ward, and the administration pavilions. No figures are yet available regarding the cost of the projected improvement, but the total will be several millions. The first step in the systematic replacing of the older buildings was taken several years ago. As a result, a new surgical pavilion will be opened on May 1. It practically will double the present capacity of the hospital for the treatment of surgical cases, as the surgical pavilion now in use will not be immediately demolished. Another forward step which it is hoped soon will be taken by the city will be the authorization of a building for convalescent patients treated in their homes. Many of these patients receive practically no treatment during the period of convalescence, when especial care should be given to them.

Watch your operating rooms—some superintendents never go near them. You need not, and should not, interfere, except to help out in some situation that is causing trouble. If you are not a person with medical training, you can at least see that the surgeons are happy in their working conditions, that discipline and order are maintained. You can see that surgeons are not kept waiting by a bad system of procedure. You can see that patients are not kept waiting in the preparatory rooms, conjuring up in their minds all sorts of horrors as to what is going to happen to them until they are in no shape to go through the ordeal. A competent superintendent is needed in the operating rooms every day—at least for a cheery word and some small compliment here or there.

So many of our hospitals are now built for the sole purpose of affording the architect an outlet for his artistic taste that a great many monstrosities are perpetrated. One of the most pronounced of these is badly shaped windows. If the architect thinks that a low, broad window will look best from the outside, he builds it so, irrespective of any utilitarian purpose; or, if he thinks a high, narrow window will contribute toward his reputation as an artist, he will build it so. These badly shaped windows are unsightly from the inside, many times give a grotesque appearance to the rooms, and are an eyesore to hospital administrators. Draperies of some washable print stuff, with lace curtains over them, will tend to dress a low, wide window; and for the high, narrow windows a grill at the top, with very narrow cretonne draperies on the sides and reaching to the bottom of the grill, makes a very pretty effect. The effect will be greatly enhanced if table covers, couch covers, and dresser covers are of the same material.

LAMPS FOR HOSPITAL LIGHTING.

Peculiar and Exacting Conditions That Must Be Met in Hospitals—Comparative Values in Metallic Filament Lamps.

Several months ago it was suggested that present-day evolution in the economy, efficiency, and availability of incandescent lamps was so rapid that it was difficult for hospital administrators to keep posted. A good many inquiries have come to THE MODERN HOSPITAL on this subject, and, to answer some of these mooted questions, Mr. J. R. Colville, a lamp expert of Cleveland, whose opinions are of unquestionable value, was asked to write a paper on the subject, and to make some comparisons if possible. The following paper by Mr. Colville is the result, and THE MODERN HOSPITAL is pleased to be able to publish it:

HOSPITAL ILLUMINATION.

The illumination requirements of a hospital are perhaps as various and complex as any that will be met in illuminating engineering. The nature of the work in the hospital and the condition of the inmates are such that common lighting methods do not apply. In view of the fact that there are at present approximately 7,000 hospitals and allied institutions in this country, which expend more than $250,000,000 annually for maintenance, of which considerable goes for lighting, and that during the coming year about 600 new hospitals will be erected, it seems proper to call attention to the lighting requirements of hospitals and discuss the adaptability of the various types of modern illuminants.

The wards and the operating room require special attention, whereas the dispensary is comparable with a drug store, and the halls and corridors and the nurses' quarters may be compared to the halls and corridors of hotels and homes. The ward illumination is peculiar in that the patients are lying down instead of standing or sitting erect. Furthermore, the strained condition of the patients' nerves prohibits lighting conditions that would be satisfactory and comfortable for a healthy person. Physicians seem to agree that there should be a moderate intensity of light throughout the ward; that contrasts of light and dark areas should be avoided; and that means should be at hand for instantly and brilliantly lighting any section of the wards should an emergency arise.

The operating room presents a problem in lighting that has never been completely solved. A high intensity of illumination is required in order that the operating surgeon may distinguish fine details with certainty, and shadows must be avoided as far as possible. A lighting installation which throws no shadows of the room equipment is not in itself satisfactory, for the shadows that cause trouble are the ones formed within the recesses of the operation. Light must come from several directions in order to overcome this difficulty. Another very important consideration is the color value of the illuminant. In certain operations the colors which tissues assume under artificial light are of extreme importance. Undue heat must be avoided, for it not only causes discomfort to the operators, but sets up warm currents of air, which carry dust and bacteria and are known to spread infection.

There are a few precautions that apply to ordinary commercial lighting which will bear mention here. Glare and flicker must be avoided, and lights should be placed outside the normal range of vision. Beyond question, a healthy workman is less susceptible to annoyance from light than a hospital patient, and yet, while all forms of industry have taken advantage of progress in illumina-

tion design, it is a fact that hospitals, catering as they do to the comfort and restfulness of the sick, have been among the last to realize its importance.

Having briefly summarized the conditions that must be fulfilled by whatever lighting scheme is adopted, the characteristics of gas and incandescent electric lamps will be discussed.

Although gas lamps are used in some hospitals with more or less success, they are open to the objection of vitiating the air and causing currents of heated air to circulate throughout the room. Gas lamps are also inconvenient, are not adapted to use with reflectors, and require attention at frequent intervals. One of the strongest objections to their use is that they are not subject to insant control.

TABLE 1—DATA ON MAZDA LAMPS.

Straight Side.

Volts	Size of lamp in watts	Efficiency, W. P. C.	Type and size bulb	Diameter bulb, inches	Maximum over-all length, inches	Base regularly supplied	Standard package, quantity
	10	1.30					
	15	1.25	S-17	2⅛	4⅝	Med. screw	100
	20	1.17					
100	25	1.14	S-19	2⅜	5¼	Med. screw	100
to	40	1.10	S-19	2⅜	5¼	Med. screw	100
130	60	1.07	S-21	2⅝	5½	Med. screw	100
	100	1.02	S-30	3¾	7⅞	Med. scr. sk.	24
	150	.90	S-35	4⅜	8¾	Med. scr. sk.	24
	250	.90	S-40	5	10	Med. scr. sk.	12
	25	1.33	S-19	2⅜	5¼	Med. screw	100
	40	1.28	S-19	2⅜	5¼	Med. screw	100
200	60	1.23	S-21	2⅝	5⅞	Med. screw	100
to							
260	100	1.15	S-30	3¾	7⅞	Med. scr. sk.	24
	150	1.12	S-35	4⅜	8¾	Med. scr. sk.	24
	250	1.10	S-40	5	10	Med. scr. sk.	12
				Round.			
	15	1.25	G-18½	2 5/16	3¾	Med. screw	100
	25	1.14	G-25	3⅛	4¾	Med. screw	50
	40	1.10	G-25	3⅛	4¾	Med. screw	50
100							
to	60	1.07	G-30	3¾	5½	Med. screw	24
130	100	1.02	G-35	4⅜	7¼	Med. scr. sk.	24
	400	.90	G-56	7	10⅞	Mog. scr. sk.	8
	500	.90	G-64	8	12	Mog. scr. sk.	8
200	25	1.33	G-25	3⅛	4¾	Med. screw	50
to	40	1.28	G-25	3⅛	4¾	Med. screw	50
260	500	1.10	G-64	8	12	Mog. scr. sk.	8

TABLE 2—EFFICIENCIES OF GEM LAMPS.

Straight Side.

Volts	Size of lamp in watts	Efficiency, W. P. C.
100	20	4.00
to	30	3.00
130	40	2.56
	50	2.50
	60	2.50
	Round.	
100 to 130	50	2.5

Incandescent electric lamps are simple, reliable, economical, and can be obtained over a wide range of candlepowers. There are two classes of incandescent electric lamps, which are, however, widely different in respect to economy and color quality. Gem lamps, or metalized filament lamps, operate at about two and one-half watts per candle and give a yellowish light, while Mazda lamps operate at about one watt per candle and approach a daylight color value more closely. Mazda lamps can be obtained in sizes from 10 watts to 500 watts, corresponding to candle-powers of from 8 to over 550. These lamps are entirely self-contained, and burn without auxiliary apparatus directly in multiple across the line. The smaller sizes permit an even distribution of light of low intensity, and by the use of the larger sizes any desired intensity can be secured to suit special cases. They give a minimum of heat and are easily cleaned. When a lamp has served its useful life, it is only necessary to replace it with a new one. In respect to operating expense, a Mazda installation will, in practically all cases, be cheaper than a gas installation.

The Mazda lamps for multiple service up to and including 500-watt size are shown in table 1. Particular attention is called to the efficiencies of these lamps in comparison with the efficiencies of Gem lamps, shown in table 2. It will be seen that, for a given energy consumption, Mazda lamps give about two and one-half times the light of Gem lamps. The greater cost of the Mazda lamps is made up many times over by the saving in energy consumption due to their higher efficiency.

In the building of new hospitals or the remodeling of old ones, too much attention cannot be given to the lighting installations. The architect, the illuminating engineer, and the administrator should cooperate to insure a system of lighting that will be of pleasing appearance, efficient, and conducive to the comfort of the patients.

J. R. Colville.

The Hospital Investigating Committee has recently furnished its report to the Board of Estimate of New York. It is based on a study of conditions existing in New York city hospitals. Bellevue and Kings County Hospital, especially Brooklyn, receive severe criticism. It is claimed that patients are transferred to Bellevue in a dying condition to prevent the death rate at private hospitals. Inexperienced house physicians and interns are accused of prematurely discharging patients when they are uninteresting cases, to provide for others of greater interest to students. It is claimed the Bellevue autopsy service is poor. It criticises the waste of hospital space, and states that the morgue of the Bellevue Pathological Building is idle from lack of agreement between hospital authorities and the Charities Department; that Bellevue is operated on the needs of medical schools rather than hospital efficiency.

Dr. J. W. Babcock, who recently resigned the superintendency of the State Hospital for the Insane at Columbia, S. C., after an incumbency of twenty-three years, has opened a private sanatorium at Waverly, that state, for the treatment of nervous and mild mental cases. Dr. Eleanora B. Saunders, also formerly connected with the Columbia State Hospital, will be associated with Dr. Babcock.

"The every-day management of a large ward, let alone of a hospital, the knowing what are the laws of life and death for men, and what the laws of health for wards (and wards are healthy or unhealthy mainly according to the knowledge or ignorance of the nurse)—are not these matters of sufficient importance and difficulty to require learning by experience and careful inquiry, just as much as any other art?"—Cook's Life of Florence Nightingale.

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NEWS *of the* HOSPITALS *and* SANATORIUMS

Hamilton, Ontario, is to have a new $500,000 hospital.

Iowa City, Iowa, is to have a handsome new isolation hospital.

A county almshouse to cost $75,000 will soon be built at Joplin, Mo.

A city and county hospital costing $75,000 will soon be erected at Columbus, Ga.

The Toledo (Ohio) Hospital will have a new $10,000 annex for incurable patients.

An addition which will be larger than the original building itself is planned for the Baptist Sanitarium at Houston, Texas.

The new public hospital at Clinton, Oklahoma, has been formally opened. It is said to be the only municipal hospital in the state.

A new building for the Alliance (Ohio) City Hospital will soon be erected. A $50,000 bond issue has been authorized for the purpose.

A follow-up system by which the permanent result of operations will be observed and recorded has been adopted by the St. Louis City Hospital.

The Methodist Episcopal congregations at St. Joseph, Mo., have raised funds for the erection of a new building for Ensworth Hospital at that place.

It is expected that the municipal detention hospital being erected in Detroit, Mich., will be completed by November 1. The building will cost $197,500.

A children's dormitory, nurses' home, and men's dormitory are being erected for the Wisconsin State Tuberculosis Sanatorium near the town of Wales.

What is said to be one of the largest and most modern hospital laboratories in the South has been installed in the Baptist Memorial Hospital at Memphis, Tenn.

Dr. T. J. Strait, of Lancaster, S. C., has been appointed superintendent of the State Hospital for the Insane at Columbia, S. C., to succeed Dr. J. W. Babcock, resigned.

John H. Starbird, a capitalist of Seattle, Washington, has launched a project which is intended to give that city a new $250,000 general hospital. Mr. Starbird proposes to

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We extend a cordial invitation to visit our exhibit, space No. 42, at the A. M. A. meeting, and to "stop over" and inspect our Philadelphia and Glenolden Laboratories.

donate a site, also some money, and suggests that a corporation composed largely of small stockholders be organized to erect and equip the building.

Two new buildings will be erected this year for the state tuberculosis hospital at Oakdale, Iowa—one for advanced patients and the other for the administrative offices of the institution.

The will of the late Francis J. Cotting, of Boston, contains bequests of $10,000 to the Children's Hospital of Boston and $75,000 to the Industrial School for Cripple and Deformed Children.

Under the "efficiency" campaign of the new chief resident physician of Philadelphia General Hospital, Dr. Wm. H. Walsh, chronic alcoholics can no longer become paid employees in that institution.

The will of Laura Walcott Lowndes, of Washington, D. C., filed for probate March 14, contains a bequest of $10,000 to Harvard College to provide free beds for needy students in the Stillman Infirmary.

In providing for endowment of a professorship of pediatrics in Harvard Medical School, the will of the late Dr. Thomas Morgan Ritch, of Boston, makes the Infants' Hospital as sole ultimate reversionary legatee.

The February meeting of the San Francisco County Medical Society was given up to a general discussion of the eight-hour law for women in its application to the hospital nurse. The general sentiment was in opposition to the law.

The degree of Doctor of Science Honoris Causa was conferred on Surgeon-General Gorgas March 24 by Oxford University. General Gorgas has recently returned from South Africa to assume the duties of surgeon-general of the United States army.

The three contagious disease hospitals recently completed by the city of Kalamazoo, Mich., at a cost of $45,000 have been opened to the public. They comprise an administration building, a smallpox hospital and a tuberculosis sanatorium.

Lieutenant-Colonel C. C. McCulloch, Jr., Medical Corps United States Army, succeeds Colonel W. D. McCaw as librarian of the Surgeon-General's Library. He is also a member of the faculty of the Army Medical School, and lectures on tropical medicine and hygiene.

The purchase of a farm of about one hundred acres is contemplated near Philadelphia for the accommodation and temporary care of feeble-minded children of southeastern Pennsylvania, the sum of $10,000 for this object to be raised by subscription.

Lace making and rug weaving are being introduced throughout the Iowa state hospitals for the insane at Mount Pleasant and Cherokee. Work of this character has been done at both institutions for several years, but it is now to be made more general.

The new $40,000 public hospital at Sterling, Ill., has been receiving patients for about a month. The building, which is three stories high and built of rough, dark brick,

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The Standard in the World's Largest Clinics

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It is the highest development of the catgut ligature.

It is sterile, antiseptic, supple, elastic, strong, easily seen, will not untwist in using, and is more than usually resistant to absorption.

The only iodine catgut guaranteed against deterioration.

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Lukens Sterile Bone Wax

The best results in bone surgery are obtained when haemostasis is perfect. This is best accomplished by the use of Bone Wax, after the formula of Sir Victor Horsley.

Sterile Bone Wax in the new "Lukens Container," permits a rapid and clean application to the oozing surfaces.

Always ready for immediate use.

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Trim, smart-looking and strictly tailored uniforms are now to be had all ready for wear.

The up-to-date supervisor has learned that there is no need of subjecting nurses to all the trouble, delay, and expense of having uniforms made to order when **better made** and **better fitting** uniforms, such as Dix-Make, are to be had in all sizes and lengths.

Their national reputation as **quality** garments has been won because of their superior workmanship, fit, and material, and the careful attention given to every detail of their construction.

Dix-Make uniforms are sold by good stores throughout United States and Canada. Insist upon getting the genuine.

We invite correspondence, and shall gladly send illustrated folder with swatches of materials, the name of local dealer, and detailed information.

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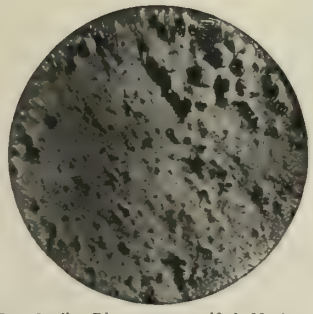
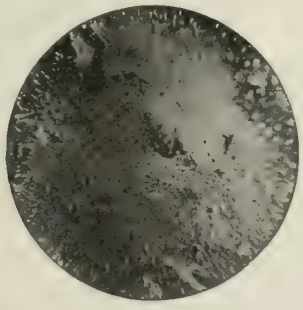


Best Quality Distemper magnified 20 times. This shows the surface of one of the best Distempers on the market.



Best Oil Paint magnified 20 times. This shows the surface of one of the most expensive Oil Paints on the market.

Paripan, magnified 55 times. This shows the surface—2 coats of Paripan undercoat and finishing coat of Paripan—on Plaster.

These photos show how totally unsuitable and unsanitary distemper and oil paint are for hospitals. Note the smooth surface of Paripan and the consequent ease of washing and disinfection.

This finish is superior to tiles, inasmuch as there are no joints and the price is only a fraction in comparison.

There is work today done ten and fifteen years ago which is practically as good as when left by the painters. This has been washed and disinfected regularly.

Paripan Filler and Paripan Glossy Enamel have been used in practically every hospital of any importance in the British Isles. Literally acres of walls, ceilings, woodwork, and corridors have been successfully treated with this sanitary lacquer-enamel.

We want you to have samples of Paripan. Please write for them.

We refer to Guy's Hospital, London Hospital; Lady Dufferin Victoria Hospital, Calcutta; Radcliffe Infirmary and County Hospital, Oxford

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NEW YORK
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with white stone trimmings, is said to be excellently arranged and equipped.

The trustees of the Swedish Hospital at Minneapolis have arranged for the building of a $50,000 four-story addition to that institution. The purpose is to provide a modern maternity ward, which will occupy the fourth floor. The other floors will be used for ordinary hospital purposes.

The Sisters of Mercy are arranging to establish a $75,000 hospital at Pensacola, Fla. Ten thousand dollars and the site have been donated by the citizens, and the rest will be supplied by the sisters. The plans call for a four-story pressed brick building, which will occupy an entire block.

George W. Sweeney, of Marion, Ohio, who is widely known on account of his activities during the last twenty years in the interest of child welfare, is agitating a movement for the establishment of a country-wide string of hospitals for the correction of deformities of the unfortunate children of the poor.

According to a newspaper report, Dr. Robert Abbe, the eminent New York surgeon, at a luncheon given in his honor in Toronto, Ontario, last month, paid the Toronto General Hospital the compliment of being the finest institution of the kind he had ever seen. Dr. Abbe was particularly impressed by the efficient way in which the noise problem is handled.

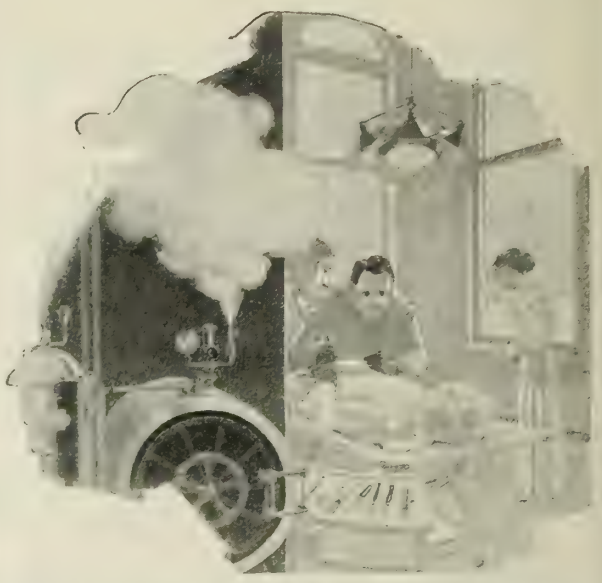
Officials of the Illinois Central Railroad Company have announced that a home and hospital for the employees of this company will be erected in Chicago at a cost of about $250,000. The building is to be located on Stony Island avenue, between Fifty-seventh and Fifty-ninth streets, facing Jackson Park, and the work of construction will begin some time next year.

Extensive improvements are being made at the Texas State Tuberculosis Sanitarium at Carlsbad. Among these is a $20,000 dormitory and an auditorium that will cost about $9,000. At this time there are less than a hundred inmates in the institution, but those in authority plan to increase the accommodations eventually until 400 to 500 may be cared for.

The new St. Joseph's Hospital opened a short time ago in Dodgeville, Wis., by the Franciscan Sisters is a red brick structure, built in the form of a cross. It consists of a basement 8 feet high and three stories, each 10 feet high, the other dimensions being 94x50 and 90x50. The building contains fifty-five rooms, and has its own water works, as well as electric light plant and heating plant.

A private hospital is being erected in New Bern, N. C., by Drs. R. DuVal Jones and Joseph F. Patterson at a cost of $25,000. The building will be constructed of reinforced concrete and pressed brick, with brownstone trimmings. It will be three stories high and contain thirty-four rooms, twenty of which will be bed rooms. It is said that this will be one of the best appointed small hospitals in the South.

The authorities of the Illinois State Hospital for the Insane at Kankakee are testing the value of piano playing for patients in the institution. The experiment will not stop with permitting the patients to listen to the music,



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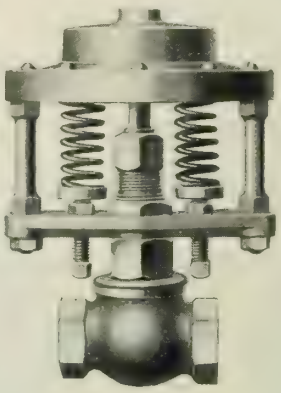
A controlling valve for the sterilizer, that works silently, and automatically regulates the steam supply, maintaining exactly the right pressure and temperature.

Easily installed on any sterilizer.

Inexpensive.



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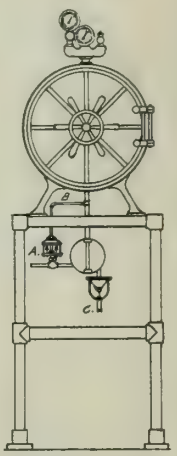

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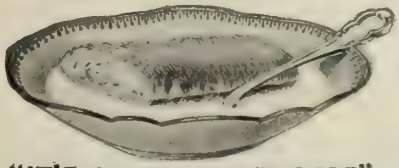
One of the largest manufacturers of oatmeal in this country recently published a series of advertisements which contain the statement that the whole wheat is without doubt the most perfect food given to man.

This is merely affirmative of a scientific fact now recognized by all physicians and dietitians. The question is, How shall we prepare this whole wheat grain so as to make it digestible and palatable without overtaxing the digestive organs? That question has been answered by

Shredded Wheat

the cleanest, most nutritious, most universally used of all whole wheat cereal foods. Indispensable in nearly all metabolic derangements—especially when caused by excess of carbohydrates in the diet—contains just enough proteid, just enough carbohydrates, and just enough fats to build healthy tissue and to maintain the body at top-notch efficiency. A free sample box sent to any hospital on request.



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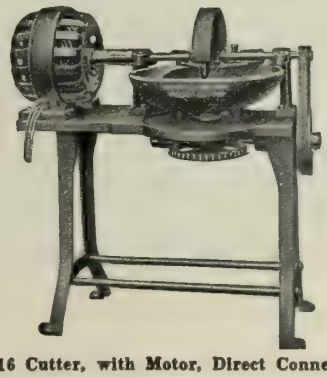
Niagara Falls, N. Y.

For Finely Chopped Beef

And Many Foods that heretofore had to be Cut by Hand



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This New Meat, Food, and Vegetable Chopper does not mash or squeeze the food.

It chops beef fine, saves the juice, and preserves all the nutritive and digestive qualities.

Most valuable machine for any hospital kitchen. Cuts fine raw meats, cooked meats, and vegetables in TWO minutes.

Worth investigating. Will ship on 30 days' trial.

Write for catalogue.

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Surgical Dressing Sterilizers

present the advantages of Simplicity of Construction, Maximum Durability, and Absolute Safety — Unfailing Sterilization and Perfectly Dry Dressings Assured.

Our Eclipse Door (the "fool-proof" door, as many experts have termed it) is one of the many exclusive features of these sterilizers. Our doors have no mechanical fastenings; they may be opened or closed instantly, without effort, and they cannot be opened while there is the least pressure in the chamber; hence there is never any danger of scalding or other injuries to the operator. There are four regular sizes of this dressing sterilizer and we are prepared to make sterilizers of any size or shape, always with the Eclipse Doors.

Catalogs and quotations on request.

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but those who can play will be encouraged to do so, and instruction will be given to others who show an inclination and capacity to learn. In the event that the undertaking shows satisfactory results, other instruments besides the piano will be added with the view of developing a complete orchestra.

The Philadelphia *Public Ledger*, one of the most dignified newspapers in the country, is publishing a series of articles on medical subjects, written by various committees of the Philadelphia County Medical Society, which is very much of an innovation. The committees of the society cover every branch of modern medicine and public health work, and the work is in the nature of a publicity campaign for the education of the public on medical subjects.

A recent article by Major Frederick F. Russell, Medical Corps United States Army, furnishes a striking illustration of the efficiency of antityphoid vaccination. In the campaign in Texas there was but a single case of typhoid in our army of nearly 13,000 men, and the patient gave evidence before the third dose of vaccine had been administered. As against this are statistics of the army at Jacksonville in 1898, when we had 2,693 cases among 10,759 men, with the mortality of 248.

The civil service commission of the city of Philadelphia will hold an examination for the position of chief resident physician of the Philadelphia General Hospital, with a salary of $4,000 per year. No provisional appointment will be made to this position. The examination will consist of a full statement of the experience of the applicant, a thesis of 3,000 words on the construction and conduct of a 200-bed city hospital, together with physical plans, plans of organization, etc., and a number of theses on medical subjects.

Dr. Lewis A. Duhring, deceased, bequeathed to the University of Pennsylvania a fund of $1,500,000 for the construction of what will probably become the greatest dermatologic teaching department in the world. Dr. Duhring was a distinguished leader in dermatology, and for many years held the chair of dermatology at the University of Pennsylvania. Of the total sum bequeathed $10,000 is to be spent for the endowment of 10 beds at the University Hospital for the treatment of skin diseases, and $25,000 for the maintenance of a dermatological museum.

A few days ago a number of professors of the University of Pennsylvania were tried in the Court of Quarter Sessions on charges preferred by agents of the anti-vivisection contingent for cruelty to animals at the University of Pennsylvania laboratories. A notable array of counsel appeared for both prosecution and defense, and Judge Bregys' interpretation of the law, in his charge to the jury trying the case, was to the effect that cruelty is a crime even in science, but the question as to whether cruelty was practiced in this instance must be left to the determination of the jury.

The hospital to be erected by the Union Hospital Association at New Ulm, Minn., this summer will consist of three-story and full basement building, with a two-story annex, both of brick construction. The main building will be 44x96 feet and the annex 42x70 feet. The annex will be connected with the main building by a two-story hall 30 feet long, in which will be located an immense cistern for the storage of soft water. On the ground floor of the an-

ETHER PRO NARCOSI

This Ether Sulphuric for anesthesia is prepared by a special process of purification by which all of the impurities that are ordinarily found in Ether are entirely removed.

Our product has a boiling point of 35° to 36° Centigrade, a specific gravity of .713 to .715 at 25° Centigrade; it leaves no residue on evaporation, and will show negative results when tested for impurities.

OUR CLAIM IS THAT NO ETHER EQUAL IN PURITY HAS BEEN OFFERED TO THE MEDICAL PROFESSION UP TO THE PRESENT TIME.

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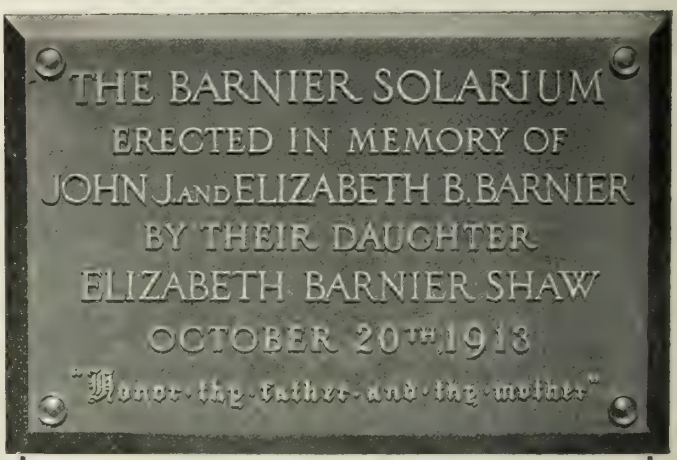
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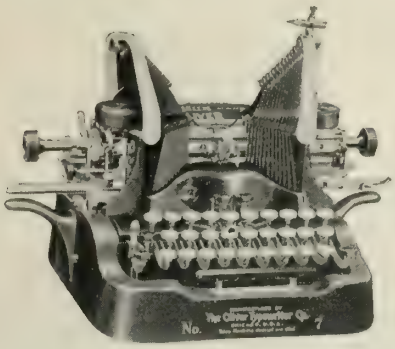

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With Medical Symbols

Now All Who Can Touch a Key Can Write At Once

Now machine writing requires less human effort than ever dreamed possible before we built this model. Now any physician or attendant can start and type the day this brand new Oliver comes to his desk. No schooling necessary—no skill. Just feed your paper to the new steel fingers. Then tap the keys lightly and **see it write.**

The OLIVER No 7 Typewriter

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As an ethical advertisement it reveals a high potential. Now thousands of well-known physicians type their prescriptions on the Oliver. And every day this indorsement is spoken by patients, "He printypes his prescriptions."

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SIMPLICITY UNKNOWN BEFORE

You will find it only in this new model Oliver—the **Silent Seven.** It embodies all our epoch-making inventions—Visible Writing, Visible Reading, Fewest Keys, and Printype if desired.

To these have now been added the cushioned keyboard, keys anchored, automatic guides, and a score of other ingenious improvements.

No care now needed—your paper cannot crumple.

The Automatic Spacer prevents the beginner from writing unconsciously on the same line twice. Yes, the hardest thing to do with the Oliver No. 7 is to make mistakes.

17 CENTS A DAY

Yet we have not advanced the price of this new marvel a single silver dollar. And it gives you by careful estimate **25 percent more value.**

We will also apply our small monthly payment plan of purchase—averaging 17 cents a day—scarcely more than typewriter rent.

2 NEW BOOKS POSTPAID

"The Oliver Typewriter in Medicine," illustrating what this No. 7 has done for other physicians—and our DeLuxe Catalogue, fully picturing and describing this No. 7—both books are yours for the asking. Just send a postal or letter like thousands of other wideawake physicians. Address

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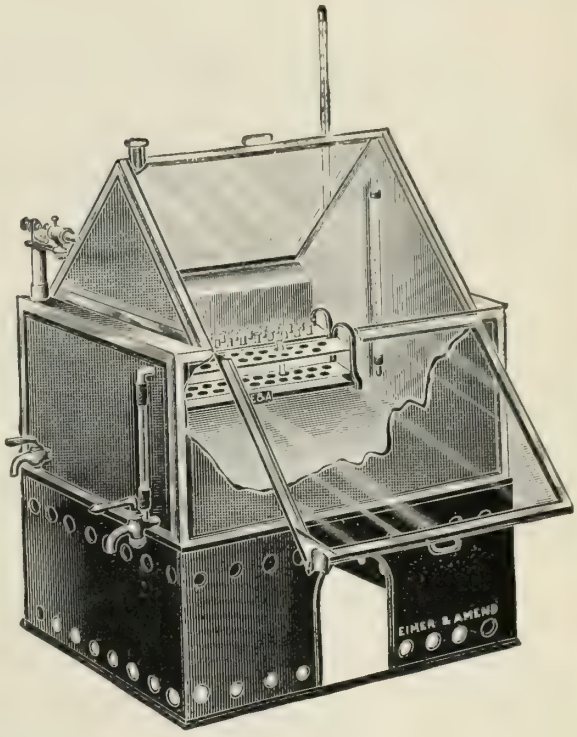

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This widely used bath is conveniently arranged so that the blood tubes can be easily observed without opening the door.

The glass gable top prevents the condensed moisture from dripping into the tubes.

The bath is equipped with metal temperature regulator, thermometers, copper racks etc., ready for use.

This and many other excellent apparatus for the hospital laboratory are described in our new Bacteriological Apparatus Catalog, Section 2, now ready. Write for your copy.

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HAMBURG (Germany)

nex will be the engine room and laundry, while the second floor will house the mud baths. Sun porches are to be built at the west end of the main building.

At the city hospital of Louisville, Ky., now under the joint control of the Board of Public Safety and the University of Louisville, the term "intern" has been abolished and the young doctors who have been honored with appointments in this capacity will be known as resident physicians. It is thought that this new designation will give more dignity to the position, since many persons have the impression that an intern is a medical student who has not yet received his diploma.

There is talk of a public hospital and sanatorium for negroes in Baltimore, Md. According to statistics gathered in the city by the United States Government, the death rate from nearly all of the most fatal and contagious diseases ranges from three to five times greater among the colored people than among the whites, with tuberculosis and pneumonia in the ascendency. This alarming mortality is attributed to the need for adequate hospital facilities, physicians, and nurses.

The West Allis Hospital to be erected at Sixty-third street and Shenners avenue, Milwaukee, this summer is to be U-shaped, so that every room will be an outside room. Only the center and one of the wings, however, will be put up at this time. This portion will house forty patients and will cost $24,000. The dimensions of each of the wings will be 36x80, and those of the center 28x40. The building will be two stories high. It will have a concrete foundation, a reinforced concrete skeleton, and brick walls.

Seventeen new beds and an emergency operating room have been added to the equipment of St. Vincent's Hospital, New York, as a memorial to William Francis Norman O'Loughlin, senior surgeon of the steamship Titanic, lost at sea two years ago. The new ward was established through a fund raised among the friends of Dr. O'Loughlin. He was in the employ of the White Star Line forty years, and had been in the habit of sending his patients to St. Vincent's when they required hospital service.

Circuit Judge Thomas C. Hennings, presiding judge of the Juvenile Court, at St. Louis, has established a psychopathic department similar to those maintained in Chicago and Seattle. The Judge is convinced that many of the crimes committed by youthful offenders are the result of irritable, nervous, and otherwise abnormal afflictions which can be eliminated by skillful medical or surgical treatment. In establishing the ward, Judge Hennings was influenced largely by the success of the efforts being made along the same line in other cities.

The Santa Fe Railway Company has ordered a $10,000 emergency hospital car stationed at Cleburne, Texas, where the road has over 1,000 employees. The car is to be fitted up with an operating room and equipment to take care of fifteen to twenty patients at a time. In case of a wreck in the vicinity the car can be rushed to the scene with surgeons and adequate equipment for taking care of the injured. When men are seriously injured in the shops, they can be placed on the car and sent to Temple, where one of the company's hospitals is located.

Out of appreciation for the recovery of her health in a Detroit (Mich.) sanatorium after an illness of several

Good News For The ONE-ARMED and ARMLESS

The above are actual Photos of Mr. C. E. Huffman, Hickory, N. C.

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Write for illustrated catalog showing facsimile letters and photographs of wearers of Carnes Artificial Arms. It will absolutely convince you that in the Carnes we have produced an artificial arm and hand that you can really "do things" with and without assistance of natural hand. Indorsed by Surgeons. Adopted by large railroads and factories.

Our Guarantee Offer Call at any of our offices. If we cannot prove that the Carnes Arm is all we claim, we will pay your round trip expenses. However, we guarantee a perfect fit by mail or no pay

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ALL THE LATEST IMPROVEMENTS

Arranged for either alternating or direct current.

Built from the base up in our own factory.

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DURABLE AND EFFICIENT

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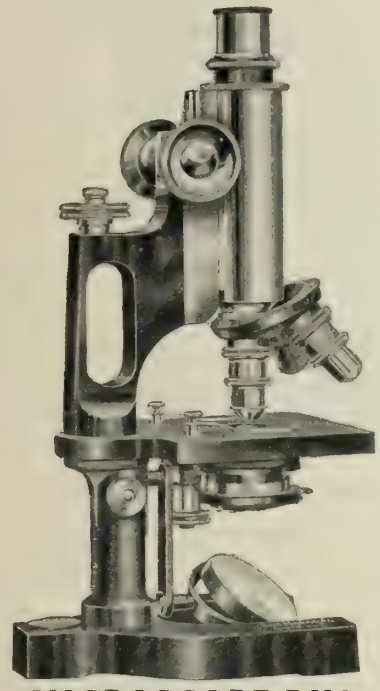

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With lever fine adjustment, $70.00
Special terms on request

The Lever Fine Adjustment

THE most important part of a microscope, apart from its optical system, is the fine adjustment. The LEVER TYPE, as designed by us for our curved and handle arm stands, has proved to be the practical adjustment for fine focusing.

The lever fine adjustment is simple and durable; CANNOT BE DAMAGED by forcing the micrometer head at either upper or lower limits of movement; CEASES TO ACT when the objective comes in contact with the slide, and develops no lost motion after years of use.

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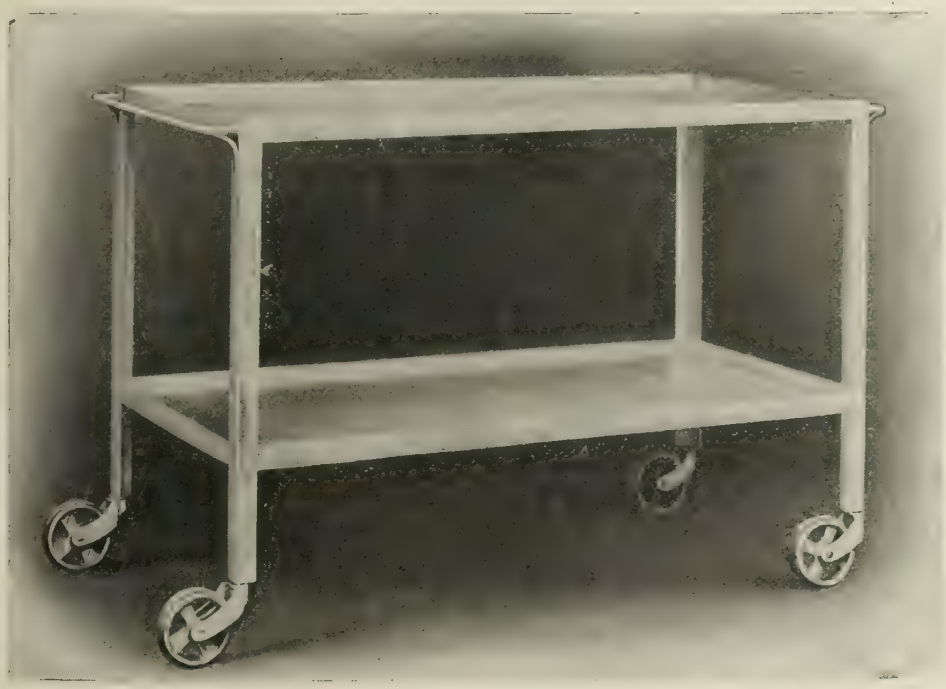

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Angle steel uprights, galvanized steel shelves, mounted on 5-inch rubber-tire swivel wheels, 1½-inch raised edges.

Finished in aluminum bronze.

Dimensions:
24 inches wide,
48 inches long,
34 inches high,
20 inches space between shelves.

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Makers of High-Grade Aseptic Hospital Furniture, Bedsteads, Bedding, and Sundries
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years, Mrs. J. C. Estes, a widow prominent in society in Chattanooga, Tenn., will conduct a permanent cheering-up department in the institution. Mrs. Estes will make regular calls in all of the wards, and do everything possible to brighten the lives and raise the spirits of the shut-ins and sufferers. She has already been denominated the "official sunshine" of the sanatorium.

Senator L. Y. Sherman, of Illinois, recently introduced in the United States Senate a bill to amend the act defining the term "registered nurse," approved February 9, 1907, by adding the following: "That any person holding a diploma from a training school for nurses in the District of Columbia, who was engaged for four years as a nurse in the hospital service of the United States immediately preceding the passage of this act, and who in addition has been continuously engaged in nursing since the passage of the act, shall be entitled to registration without an examination."

The fact that the predominating color in one's surroundings—as of the paper on the wall, the carpet on the floor, or even the clothing one wears—affects both the mental and physical state to a degree is not a new discovery, but it is interesting to note the ideas along this line developed by R. Goulburn Lovell, a prominent British architect. Mr. Lovell claims to have determined by extensive scientific experiments the relative influence of the different colors, and is urging the public in lectures to give more importance to proper color values in decorating and fitting up residences and hospitals. The order of colors, ranked as to their life-giving properties, are given by Mr. Lovell as follows: blue, violet, yellow, red, and green. Accordingly he maintains that a patient in a hospital where green is the most conspicuous color has a far slimmer chance for speedy recovery than in one where blue predominates.

An experiment in the home treatment of tuberculosis conducted in New York City during the year just past, under the direction of the Society for Improving the Condition of the Poor, has proved so successful that the society feels warranted in continuing it for at least two years longer. The work is being carried on in the East River Home, the model tenement built by Mrs. W. K. Vanderbilt especially for tuberculous families. This "Home Hospital," as the institution is known, provides a home for all the members of the patient's family, and, in addition, all the advantages of hospital care for the patient himself. It was established in 1912 under the supervision of Dr. Linsley R. Williams, now deputy state health commissioner. According to a report recently made public, the hospital maintained twenty-seven families, seventy-nine members of which were tuberculous. No new case developed during the year. Sixty-one per cent apparently were cured, and in only four cases was there no progress. In addition to medical attention, the experiment included social and economic teaching. An open-air school and roof playground is provided for the children. The results seem to show that the actual cost to the community in caring for families of this character is less at the home hospital than if certain members of the family who have tuberculosis are sent to an institution and the remainder are cared for in homes, asylums, or elsewhere. The home hospital idea is said to have been conceived by John A. Kingsbury, formerly director of the society, now New York's new commissioner of charities.

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THE MODERN HOSPITAL

A Monthly Journal Devotea to the Building, Equipment, and Aaministration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. II *June, 1914* No. 6

NEW ROBERT W. LONG HOSPITAL, OF INDIANAPOLIS.

Medical Staff Designed Features of New Institution, and the Architect Built It for Widest Possible Flexibility—Some Rather Unique Features.

By CHARLES P. EMERSON, M. D.

THE Robert W. Long Hospital, located at Indianapolis, Ind., is a hospital of about 100 beds capacity, presented, fully equipped, to the state of Indiana as the hospital of Indiana University by Dr. and Mrs. Robert W. Long, of Indianapolis. It is to be maintained by the state of Indiana for the benefit of the sick poor of that state. The construction for this hospital was begun in November, 1912, and is now about ready for patients. In planning this hospital the medical problem was outlined first, and then the building was fitted by the architect, Mr. Robert P. Daggett, to this problem.

The hospital is a four-story building of gray mat-faced brick and steel construction, with Bedford stone trimmings and with floors of reinforced concrete. The main portion, four stories high, measures 75 by 48 feet, the ell 40 by 26 feet, and the two wings, of three stories each, 76 by 36 feet.

The hospital is planned for the care of adult medical and surgical cases. The present intention is to devote the second floor to men and the third to women patients. Its normal capacity is 106 beds, 18 of which are in private rooms on the first floor, and 88 in the public wards of the second and third floors. On the fourth floor of the main portion of the building are the operating rooms, while over the ells are two roof gardens. In the basement are the kitchen, dining rooms for doctors, nurses, and help, the laundry and the boiler rooms. The building is heated by steam. The arrangements for natural ventilation are supplemented by forced ventilation, one large fan blowing washed and heated (or cooled) air into the rooms, and three fans drawing out the bad air—one from the wards, one from the kitchens, and one from the service rooms.

On the first floor are the rooms for the private patients and the offices of the executive staff of the hospital. The only point of medical interest on this floor is the central reception room, which, when the east and west doors are closed, as they should be during the day, does not allow visitors access to or sight of the corridors or the private rooms. The second and third floors are almost identical in arrangement. Each of these floors is not only a perfect hospital, but each also can be conducted as three isolated units. The efficiency of a hospital demands that each floor be a complete hospital in itself—that is, that for the care and comfort of the patient it should not be necessary for him, or for the doctor or nurse in his behalf, to leave that floor. If, for example, the laboratory is a part of the ward, the doctor and his students will in the course of the day make more clinical examinations than if they must go to a separate laboratory building or even to another floor. Separate laboratory buildings are very desirable for research workers, and for the ward workers in case they desire to make special examinations; but the daily routine of the ward work, with its routine of laboratory examinations, is another matter, and, that this may not be sacrificed to research, we have placed a laboratory on each floor. For the same reason there is on each floor a special hydrotherapeutic room, in which all the common and simple forms of baths may be given; for certainly, if neither nurse nor patient must leave the ward each time

a bath is prescribed, more baths will actually be given daily than would be the case were there a separate bath house. Each large ward has its own balcony for bed patients. The roof gardens are intended primarily for convalescent patients.

Forty-four beds was accepted as the floor unit of this hospital. The reason for this figure is that, on the one hand, there should be as many patients on each floor as is consistent with their comfort and safety, since the same space for administration and equipment will serve 60 patients as easily as 10, while, on the other hand, the upper limit of the number of patients on one floor is the maximum number of patients for whose care, by her pupils, one graduate nurse can be responsible. Supervising nurses in hospitals with a ward unit of 28 or under complain that the work on one floor cannot keep them busy, and they object to the care of more than one floor. In Europe the nursing is done largely by graduate nurses who, for the most part, are permanent residents of the hospital; and the reason for the unit of European hospital floors, about 26, was probably that one graduate nurse with maids can give personal attention to about that number. In America, however, our nursing is not done by graduates, nor do ward maids play a conspicuous part in the hospital work. Here the actual nursing is done by inexperienced undergraduate nurses, who are "learning how," and who are sent to another ward as soon as they are efficient in one. These pupils must be under constant supervision, not only for the patients' sake, but in order that they may learn well the art of nursing. It would, therefore, be an accident were our ward unit the same as that of Germany, and, indeed, experience has shown that for our problem between 40 and 50 patients is a better ward unit.

One of the most important points in hospital architecture is to save the nursing force as many miles of walking per day as possible and to avoid stone floors wherever possible, for the more fatigued the nurse the poorer her work. The sore feet of the nurse is a problem to be considered seriously if efficiency of nursing is our aim. Good nursing consists not merely in doing all that is actually necessary for the patients, but in doing for them, in addition, much more than is necessary; good nursing consists in carrying out all the doctors' orders and also in making the patients just as comfortable and happy as possible. The more tired the nurse and the sorer her feet, the fewer of these little extra attentions will the patients receive. For this reason the distances from the service rooms and the diet kitchen to the farthest patients should be as short as possible, and the floors should be covered (in wards for adults) by an elastic material. Large wards are usually long wards, since the width of a ward is a nearly constant quantity. Wards with 24 beds are too long. We have attempted to arrange 44 patients in semi-circles around two administrative centers, and believe that we have reduced considerably the total distance to be walked by the nurses.

In the large wards the concrete floor is covered

Fig. 1. Robert W. Long Hospital—Front view.

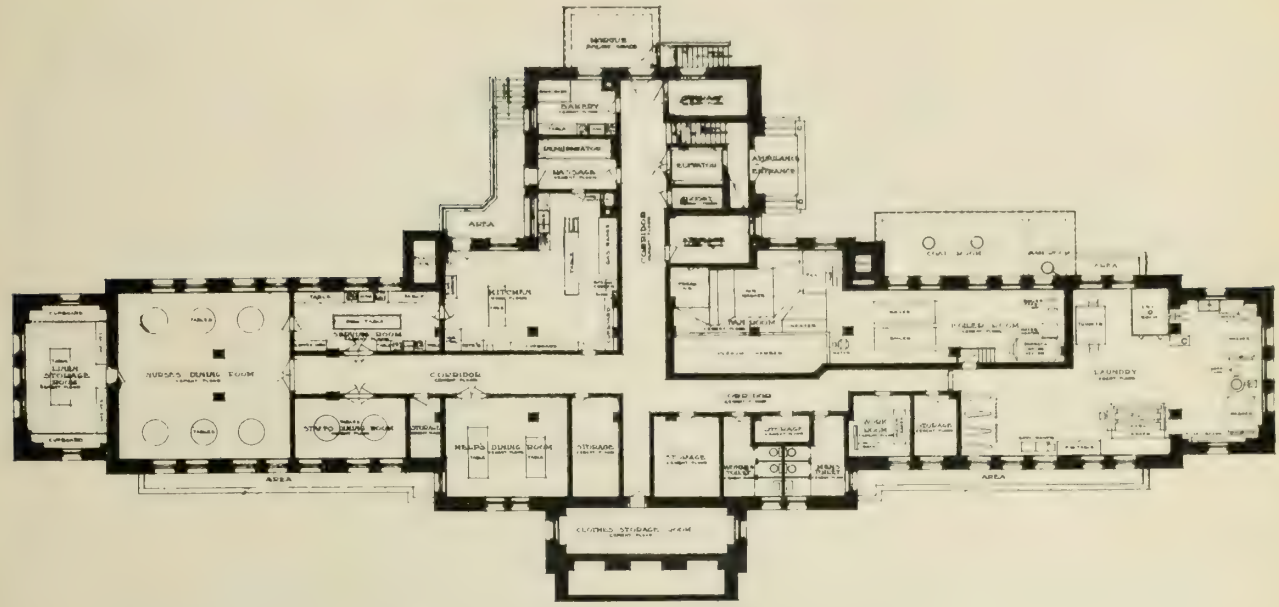

Fig. 2. Robert W. Long Hospital—Basement plan.

on the sides with wood and in the center with a wide strip of linoleum. The 44 patients on each public floor are grouped in two large wards, with 16 beds each, and four small rooms arranged in pairs, separated by the north and south corridor, each pair to contain from 3 to 6 patients. The larger rooms will contain easily 4 beds and the smaller rooms 2 beds. Each group of one large and two small rooms for 22 patients has as its center a service room. The diet kitchen, common to both groups, is between the two. From the intersection of the two corridors the nurse can command a view of a surprising number of all 44 beds.

One of the reasons for this grouping of the patients is the following: suppose that a contagious disease, as scarlet fever, were to appear in, for example, the large east ward. This room can at once be isolated, with its patients, nurses, and adjacent service rooms. We believe that it is in the service rooms that ward epidemics start and that in these rooms the nurses receive their infections. The same diet kitchen and linen closet can serve safely the isolated portion of the floor as well as the rest, since from them the clean supplies are carried to the isolated nurses, but the same common use is not possible in the case of those rooms to which the dirty linen and the excreta of the patients are carried. Suppose, next, that a case of measles were to appear in the large west room; then this ward, with its service rooms, can also at once be isolated. The laboratory can now be used as the service rooms of the four small central wards. In this way we have on one floor three separate hospitals, each satisfactorily isolated from the other two—two with 16 beds each and one of 12. The

Fig. 3. Robert W. Long Hospital—First floor plan. Administration and private rooms.

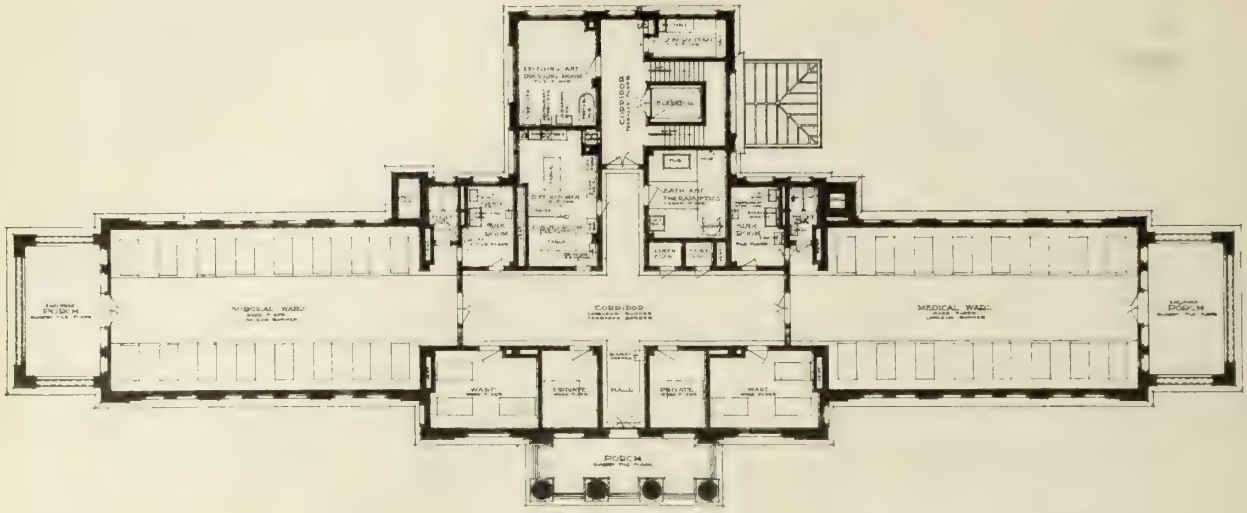

Fig. 4. Robert W. Long Hospital—Second floor plan.

soiled linen for each can be put at once into lysol or phenol containers and the used dishes carried to a common sterilizer.

In order to deaden sounds, the walls of the small wards are made of two layers of hollow tiles, separated by a mattress of seaweed. In these rooms noisy patients or those with disagreeable conditions may be isolated, or patients with similar diseases grouped.

Each floor has its own admission room, a large room directly across the corridor from the elevator, into which each new patient is first taken. Here he is given a complete bath and receives his ward clothes. Here any minor surgical operation may be performed, fractured bones set, etc. To this room he could be brought for dressings.

The elevator, the admission room, and the laboratory are grouped at one end of the north corridor, and are separated from the wards by thick swinging doors, which are intended to deaden the sounds from these, the chief centers of noise in most hospitals.

The lighting of the wards is by chandeliers with opaque reflectors, which throw all the light to the ceiling. In one large ward we also have used floor lights as an experiment, hoping that the nurse can obtain an even light in the ward without awakening the patients, each of whom will be shaded from this light by his bed. Behind each bed is a signal light, which gives a red signal when the patient presses the button of his bed-cord to call the nurse. In addition, there are emergency buttons at convenient points on the walls. When these are pressed, a green light shines at several points throughout the floor and a buzzer in the diet kitchen rings the alarm. This is to be used by a nurse who sees that she must have at once the assistance of other nurses.

The surgical rooms are on the fourth floor. In order that the convalescent patients may reach the roof gardens on this floor without going through the surgery, outside balconies were built connecting the ell with these roof gardens. The surgery consists of two large operating rooms,

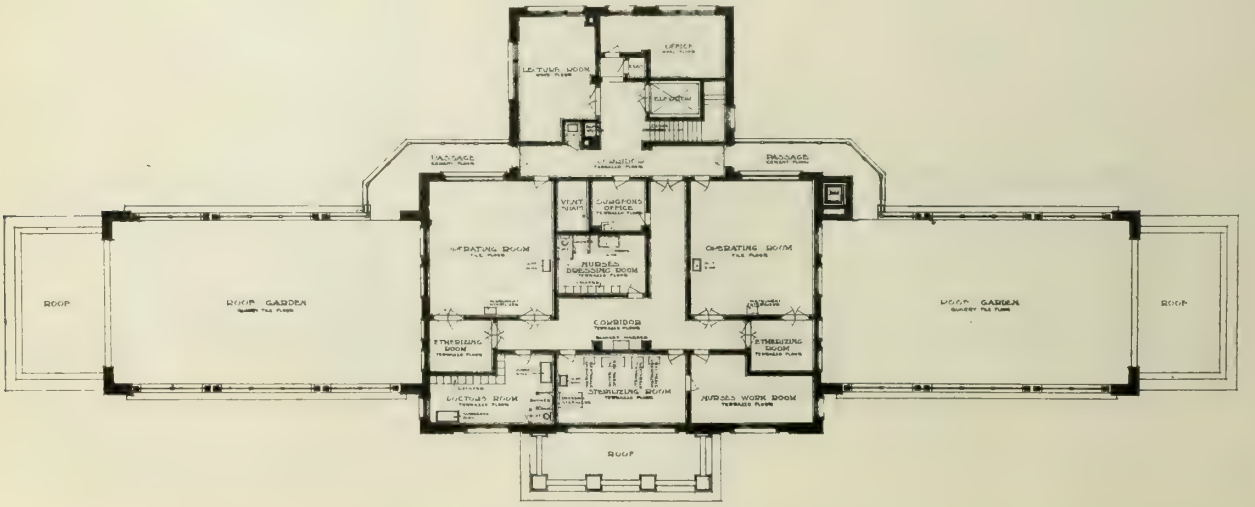

Fig. 5. Robert W. Long Hospital—Fourth floor plan.

with north light. Each operating room has its own anesthetizing room, and between them, equally distant from both, is the sterilization room, where the instruments and supplies are always ready. On this floor is also the dark room for examinations requiring artificial illumination.

Since this one building must be a complete hospital, there are in the basement the boiler room, the ventilating apparatus, the laundry, the kitchen, and the dining rooms for the staff, nurses, and help. On this floor are also the large store rooms for the hospital. The hospital faces south, and is placed in the center of the east end of a lot of sixteen acres. It is hoped that some day there will be a new medical school building and new hospital units to complete the medical group.

WOMAN'S AUXILIARY AS AN AID IN HOSPITAL SERVICE.

The Story of One Such Board That Has Come to Be an Integral Part of the Institution's Activities—Success Depends on Its Self-Limitation.

By MRS. DAVID W. GRAHAM,
PRESIDENT OF THE WOMAN'S BOARD OF THE PRESBYTERIAN HOSPITAL, CHICAGO.

I HAVE hesitated to comply with the request of the editor of The Modern Hospital for a story about the work of our Woman's Auxiliary in the Presbyterian Hospital for the reason that, while my experience in such work has been long, it has been limited to one hospital, and that a denominational one. Through church affiliations we are able to do many things easily that otherwise would be difficult.

It is easy to appeal to the women's societies in the churches for delicacies or their equivalent in money, and over $2,700 in money has been collected in this way in the last five years—my period of presidency—while the value of the articles contributed would easily double that amount. The same may be said in regard to collections through the Sunday-schools for the support of free beds for children. Fifty schools are now interested in endowing a bed in perpetuity in the children's ward, and in two years more than one-half of the necessary $5,000 has been given.

And to the women of our churches do we appeal for the Thanksgiving linen offering of either the linen itself, bed and table, or cash with which to buy it. To be sure, we know that, while the source of supply is there, the appeal must be well, faithfully, and attractively presented in order that it shall be successful. In these days of well-organized methods of approach in the interests of so many deserving philanthropies, no continued interest may be expected in anyone unless year after year the situation is carefully considered and the appeal tactfully presented. Probably one reason of the success of the woman's board of the Presbyterian Hospital is the fact that the committees collecting money through different channels never feel the plan of any one year perfect and are always on the lookout for ways of improvement.

Money that comes for a specified purpose must, of course, be used only for the purpose for which it has been collected; but, with a work so large as that of this particular board, there must be a considerable sum raised to be expended according to the wisdom of those in charge. To meet this demand three methods prevail:

First, the pledge system. Every member of the board, about 150 in number, is approached in the spring as to her willingness or ability to contribute personally or make herself responsible for a certain contribution during the year, stating the month that it will be convenient to meet the pledge. In the year just past, 89 members responded, giving $3,090. It is hoped and expected that this amount will reach $3,500 this year. After a trial of four years we are ready to indorse this method of money raising. It is dignified; it is sure, and assures a permanent income on which to rely. We would advocate it for trial for all boards. Failure has been prophesied for us, but the prophecy itself has been the failure, while the plan is a success.

Second, the associated membership. Here again the appeal goes to the churches, though not necessarily so. Nearly 1,000 members are enrolled, the collection this year reaching about $1,500. A contribution of a dollar or more constitutes membership; such members are expected at the annual meeting, but are not entitled to a vote.

Third, the dues of our active membership—only $2.

All this gives about $5,000, which is in the control of a finance committee, subject to the approval of the board as a whole. The finance committee is composed of the officers of the board and such other members as they call to their assistance. The money collected through the pledge system and associate membership is not spent the

year of its collection, but is held in reserve for use the following year. This makes it possible for the finance committee to meet immediately following the annual meeting and appropriate the amount on hand. It is appropriated for the following uses: social service, furnishings, and training school for nurses.

The social service costs $1,600 a year. This includes salary of worker and wet nurse, and leaves a small balance, used for immediate relief either as a gift or loan, preferably the latter, and I am happy to say that in most instances the loan is returned. It comes in small amounts, and often takes a long while, but it comes and is an encouragement to further activity along the same lines. It also speaks well for the wisdom and efficiency of our worker, Miss Jessie Breeze, and those who preceded her, Miss Ellen Persons and Mrs. Olive Hazlett, for some of the money now received was loaned five years ago, when the woman's board of this hospital, as pioneers in such work in hospitals, established social service. By vote of the board last October the work is now a department of the hospital, under the control of the superintendent, but supported by the woman's board.

The second appropriation is for furnishings, for which $1,500 is set aside, and increased by the Thanksgiving collection and special gifts until something more than $2,000 is spent in this way. This appropriation is entirely in the hands of a competent committee, that watches the market, gets bids, and buys the best and most suitable for the least money; and the fact that the money is in hand, and bills can be settled at once, gives the advantage of a good discount. Let me say here that in the thirty years of the board's existence no bill has ever been contracted until the money to meet it was in the treasury.

The training school for nurses is ever in mind. Three scholarships are supported at a cost of $120 each. As tuition, board, and laundry are furnished the student, the $10 a month has been deemed sufficient for incidentals. These scholarships are open to missionary students only—that is, young women accepted by their missionary boards, home or foreign, and not necessarily Presbyterian, who, after the probation period, are accepted for training. In order to provide for other students who may become financially embarrassed after entering, a loan fund of an indefinite amount is carried, and any student, on the recommendation of the principal of the school, may receive the benefit. No pressure is brought nor time mentioned as to the return of the loan. It is simply a debt of honor, and to date we have had no occasion to reconsider our action.

In the last three years this board has also paid $5,000, one-half the necessary amount, toward the endowment of the Mary Byrne Memorial Room, in memory of the only nurse who has died while in the performance of duty, the remaining $5,000 to be paid by the Alumnæ Association.

To keep a board thoroughly alive and active, there must never be a dearth of interest, and no sooner was the last payment made on this room, than the board voted to assume another $5,000 toward the endowment of a room for ministers and missionaries, and a good share of the amount is already on hand.

Nor does this enumeration complete the list of money activities of this board. No one living in Chicago can be unmindful of the day set apart for children by the Chicago Children's Benefit League —to which belong thirty-five charities, approved by the league—"Tag Day" in October; it is truly a wonderful day and yields a large harvest to its workers. It would be difficult to find a more carefully planned, systematic method of obtaining from a community in small sums so large an amount of money, nearly $60,000, in one day. It is hard work, and not always pleasant, but not nearly so disagreeable nor fraught with such disastrous results as some of the press would lead the public to think.

Many are the touching incidents, the words of thankfulness that come to the ears of the workers from those in humble life, who in this way have an opportunity of showing gratitude for benefits received by their children. The members of the woman's board of the Presbyterian Hospital who are not able to respond to the pledge system generally render service on that day, and many do both.

All this activity on the part of women realizing the importance of their work brings to the hospital about $12,000 annually and over $60,000 in the last five years.

But I would not have anyone think that the only service that can be effectively rendered in such work must have a money basis. Far from it. There is the service of sympathy—the visiting those in distress of mind as well as body, to whom words of comfort and cheer are as necessary as the science that leads them back to health. The chaplain has his place, the sympathetic friend hers. One willing to perform a little task—write a letter, read, or supply any need the occasion demands. A hospital without a woman wishing to do and suited for such services is to be pitied.

Then, too, there should be the time of recreation, when all who are able can be brought together to laugh. This means a willingness on the part of a certain number, who, no matter what the deprivation means, forego all personal pleasure in

order to bring happiness to others. The entertainment committee is an important one on this board, arranging entertainments not only for the holiday season, but monthly on Saturday afternoons from October to May, inclusive, arranging not alone for talent, but for helpers to assist in getting the patients to the chapel where the entertainment is given.

During the last few years the board has issued a quarterly called the Bulletin, which will have an historical value, as it chronicles all events of importance.

The question is sometimes asked, What is the relation between the Board of Managers and Woman's Auxiliary Board in the Presbyterian Hospital? My answer is to emphasize the word auxiliary—the woman's board is an aid and we hope an efficient one. Both boards have a distinctive work.

Fortunately for the women, they have no jurisdiction over the hiring of any employee, nothing to do with food supply; all this is controlled by the superintendent. The nursing is under the supervision of the principal of the training school, and, when anything comes to the knowledge of any member of the board that seems worthy of consideration, she is expected to remember that the superintendent is the high court of appeal. To him all criticism is to be taken, in order that the matter may be properly adjusted; and the appeal is never in vain, for, no matter how great the pressure of business, the ever courteous superintendent of the Presbyterian Hospital finds time to listen patiently to every tale of wrongdoing. It is not too much to say that to Mr. Bacon's uniform kindly sympathy and courtesy is due a large measure of the success of our work.

Is a woman's board desirable? Our experience gives an affirmative answer—but only when it adheres closely to the lines of work for which it is organized. I can easily imagine conditions when an answer in the negative would be the result. Organized "to arouse and maintain an interest in the hospital" for thirty years, we have worked in harmony with each other and in perfect accord with our Board of Managers.

SCHOOL AT THE MASSILLON STATE HOSPITAL.

Mental Patients Have Classes in Reading, Spelling, Arithmetic, Languages, and Drawing —Patients Take Great Interest, and the Work Is Now an Established Curative Agent.

By MATHILDE ZUR LINDEN,
TEACHER MASSILLON STATE HOSPITAL.

THE school at the Massillon State Hospital has been in session for about six months. In the subjects taught now—oral arithmetic, reading, and spelling, enlarged by oral language work —the pupils are encouraged to relate stories and incidents from their experience bearing on the subject under discussion. Spelling contests and special programs of recitations and songs also promise to prove popular. We find that there is a general interest in freehand drawing and German, which we have tried to introduce. The majority of pupils have also consented to join special classes in history and geography. The reading of stories and singing during the opening period, and occasionally at other times, are enjoyed as they are in any school. We hope to make extensive use of pictures, such as the Perry and Birds and Nature pictures.

It is the aim of Dr. Eyman, the superintendent of the institution, whose heart is in this work, to recall and reproduce as vividly as possible in the minds of the patients the experiences of their former school days, and thereby to stimulate and awaken strong associations in the hope that these may reinforce the stream of thought and help to bring it back to its natural channel. Consequently the school is to be old-fashioned in a way. The better text-books of the old type are to be used in preference to the newest ones. All sane and sensible methods are to be tried, but the insane fads and frills from which the present day schools are recovering will not be tolerated.

There are two teachers, and the average attendance is one hundred pupils per day. Three sessions are held daily—two for women and one for men. Not all the pupils attend all these classes, but all attend some of them. Most of them respond readily when given something which interests them and which they can do without much difficulty.

Things must be varied and made to move quickly in order to sustain interest. The questions and subjects used are made as concrete and suggestive as possible, and the pupils are encouraged to tell the experiences and ideas which the lessons call to their minds.

Each session begins with opening exercises. These consist of songs and piano numbers, fol-

Fig. 1. Massillon State Hospital School—Front view of building.

lowed by a talk on something that is of special interest, like the return of the birds, or a story which the teacher reads to the class. They like to listen to the stories. The discipline is not difficult, for those who are able to follow the work do so willingly, and there is a general spirit of good will among them. Those whose condition renders them unable to take any active part are usually content to listen and to be with the others. Some are timid, but reassurance and kindness put them at their ease, and they then respond readily as far as they are able.

The last twenty or thirty minutes of each session are given to calisthenics in the gymnasium. These begin with a march to the music of a player piano. A simple gymnastic drill, with definite commands and without apparatus, follows the march. At the close of the drill the pupils join in such games as "drop the handkerchief," "London bridge," and "fox and geese." They thoroughly enjoy the games.

The school building, which is of brick and well constructed throughout, was erected by patients of the institution. It stands on the edge of a

Fig. 2. Massillon State Hospital School—Class in school room.

Fig. 3. Massillon State Hospital School—Calisthenic exercises.

hill, and below it is a large open field fringed with woods. Here are a tennis court and a ball ground, and, when the weather permits, this space will become an ideal place for outdoor gymnastics and games.

The building has two stories and a large, well-lighted basement. At each end there is a wide porch and a wing, with stairways leading to the second floor and to the basement. The basement contains billiard tables and a bowling alley. On the first floor there are two rooms, with a central hall between them. The second floor consists of a single large hall, which is used as a gymnasium. On all sides there are plenty of windows, affording good light and ventilation, and the entire building is well supplied with electric lights and is heated by steam.

One of the rooms on the first floor is used as a class room and the other as a library and reading room. Patients like to come to the library to play checkers, to read the newspapers and magazines, and to write letters.

The school room is like any other school room, except that chairs are used instead of stationary seats. In this room there is a piano, and all the playing is done by patients.

Fig. 4. Massillon State Hospital School—Corner of library.

Fig. 5. Massillon State Hospital School—Bowling alleys.

If the school accomplishes nothing more, it does help the patients, for a time, to enjoy the pleasures of school days, and to forget that anything is out of the ordinary.

Speaking at the International Student Conferences held at the University of Pennsylvania recently, Miss Helen Glenn declared that hospitals should be licensed and regularly inspected by a supervising board under the direction of the department of health. Continuing, she said: "The hospital system is intensely individual. The hospital is a little world of its own under military rule, and it reflects the personality of its rulers. I favor some central board of control for hospitals, for, although some may be under the best direction, others are certainly mismanaged."

PURCHASE, PREPARATION, AND DISTRIBUTION OF DRUGS AND MEDICAL SUPPLIES.[1]

The Pharmacy and Surgical Store Rooms at Johns Hopkins Hospital Are Conducted Under Strict Rules—All Medication Is Carefully Supervised—Methods and Formulas Employed.

By RUPERT NORTON, M. D.,
ASSISTANT SUPERINTENDENT JOHNS HOPKINS HOSPITAL.

PAPER VII.

THE purchase of *all* hospital supplies is made through an order, signed by the superintendent or one of his assistants, on a requisition of such goods as are wanted by the head of the department interested. Drugs and medicines are, naturally, requisitioned by the pharmacist, but some medical supplies are requisitioned by the superintendent of nurses.

The central hospital pharmacy is situated in the annex of the administration building, and there are smaller branch pharmacies in the general dispensary, in the Henry Phipps psychiatric clinic, and in the children's clinic. All are under the direction of a nonresident pharmacist, who has two assistants, who alternate in living in the hospital. The calls on the pharmacist at night are very few, so that he can be on duty both day and night for an indefinite period. Besides having general supervision of the pharmacy, the head of the department gives a course in materia medica to each incoming group of probationer nurses. The three pharmacists are registered. The two assistants spend about half the day in the dispensary, since this is open both morning and afternoon. The rest of the time while on duty they prepare and fill the ward and other departmental (except surgery, nurses' home, and laboratories) requisitions that may be handed in to the pharmacy during the day.

The head nurse of each ward keeps a book in which she writes each morning what she needs in the way of drugs or other articles kept in the pharmacy. An employee in the pharmacy collects these books and the ward tray in which bottles and boxes are carried to and from the ward, and takes these to the pharmacy, where the requisitions noted in the books are filled out and the trays are distributed again in the same way they were collected. The trays usually arrive at the pharmacy about 9 a. m. and are returned about 1 p. m. The requisitions of the head nurse are approved by the superintendent of nurses or one of her assistants in her early morning rounds through the wards.

Emergency orders can be sent to the pharmacy at any hour by a nurse or orderly. Unusual or expensive drugs are secured from the pharmacy only when the requisition has been signed by the superintendent or one of his assistants. All tinctures, syrups, and elixirs of the official products, as well as many other official solutions and liquids (except Brown's, Basham's, etc.) not requiring much apparatus for their preparation, are made up in the pharmacy. The tinctures of belladonna, digitalis, and opium, which have to be assayed, are not made. The latter is sometimes compounded, but only when intended for external use, as in the lead and opium lotion, where it is not necessary that the preparation be exact according to the official standard. Tincture of nux vomica is, however, made, as the extract is assayed, and so the tincture can be readily prepared. The common tinctures made up are the compound tinctures of cinchona and gentian, the tincture of hyoscyamus, and paregoric. The syrup of wild cherry, of the iodid of iron, of ipecac, and the compound syrup of the hypophosphites are the usual ones prepared in the pharmacy. Fluid extracts, since they are very little used here and whose composition is very complicated, and pills are not compounded. The fluid extract of cascara is much used in the hospital, but it is bought in quantity. Powders and ointments, except some of the mercurial which require special machinery for their proper mixture, are also made. The official products necessary for the various preparations are bought wholesale from the large drug houses.

Much of the preparation of these various drugs is done, under the strictest supervision, by the pupil nurses in groups of ten or twelve. Each nurse has her own desk in the pharmacy, supplied with scales and measuring glasses. If she is preparing a powder, she weighs out each ingredient, keeping the set of bottles before her, so that the pharmacist can see that all the weights are correct. If, on the other hand, she has some solution to make up, the various constituents and the measuring glasses used are kept on her desk until certified by the pharmacist. With the assistance of these pupil nurses (probationers, in fact) a great deal of work can thus be accomplished and done with perfect safety, and, what is of still greater importance, in this way the nurses get a

[1]This is the seventh of a series of papers on the internal administration of Johns Hopkins Hospital, by Winford H. Smith and associates. Last month, "Food Service;" next month, "The Surgical Service."

most valuable experience in their first year, before going on regular duty in the wards, by making them familiar with the appearance, taste, and smell of common medicines, and this grading of instruction prevents their being taken off the ward work later to learn materia medica.

The resident physician, surgeon, gynecologist, etc., are responsible for seeing that the necessary drugs are kept in the wards. Each ward is supplied with a locked drug cupboard, in which are kept all the solutions, powders, pills, poisons, etc., which may be needed at a moment's notice or for routine treatment. The keys of the cupboard are in charge of the head nurse.

When labels on bottles have to be renewed, it is always done by two nurses—the head nurse and a senior assistant. Before a label is removed a duplicate label is prepared, and as soon as the soiled label has been washed off the bottle by the senior nurse, the head nurse at once applies the fresh corresponding label. This work should never be left to one nurse. To avoid, in so far as possible, human error, the work must be, so to speak, supervised by two trustworthy nurses, and it should not be left to junior or pupil nurses.

Red labels, marked "Poison," are used on all bottles or boxes containing poisons, which, when in solution, are sent to the ward in blue bottles. We have red labels for wood alcohol, chloroform, carbolic acid and oxalic acid, corrosive sublimate, etc. The labels on bottles have the date to indicate when the solutions or preparations were sent to the wards.

Some solutions are made in the wards, where percentage tables for their preparation are on hand to be referred to. This applies to different strengths of carbolic acid and corrosive sublimate, which are used in such large quantities for disinfecting purposes that it is far easier to prepare the strengths needed on the spot than send the big 5-gallon bottles to the pharmacy for frequent renewal.

Carbolic acid solutions and peroxid are sent out from the pharmacy in brown (amber) bottles to prevent mistakes. These bottles can be secured in large size at a moderate price, but other large colored glass bottles are unobtainable, and so the corrosive sublimate solutions are sent in ordinary green (white) glass bottles, with a large poison label.

In a frame, near the medicine cupboard, cards are placed, on which are written the names of all the patients receiving any form of medicine, the drug and its amount and the hour when it is to be given. At the hour marked a nurse takes down the card (Fig. 1) and prepares a tray with the necessary medicines, to be taken from bedside to bedside. These are arranged in order on the tray, and with card in hand she visits each patient who is to be given any medicine. The senior nurse on the ward, not the head or graduate nurse in charge of the ward, is responsible for all the medication—that is, she distributes the medicines needed to all the patients.

The first column, marked "No.," is used to indicate the number of the private room in which a patient may be, and is *not* used in the public wards to indicate the bed, as confusion might easily arise, since the position of beds in the latter is frequently changed for various reasons, such as to bring a group of cases suffering from the same disease together, or for the isolation of a neurasthenic patient at the extreme end of the ward, or to assist in the routine care and avoid extra labor, as in the giving of cold tub baths, when it is all important not to have to draw the tub further from the filling and emptying points than necessary.

In case a nurse feels that a mistake in some way has been made in administering a medicine to a patient—either that the wrong medicine has been prepared, or that one patient has received a dose meant for another, or has received too big a dose of the proper medicine, she reports her error at once to the head nurse on the ward, who, in turn, reports it to the ward officer. He, in turn, after acting as promptly as may be necessary, reports the mistake to the resident of his staff. The head nurse, in due course, reports the error to the superintendent of nurses, through whom it comes to the superintendent of the hospital. The punishment of the nurse is then left to the superintend-

THE JOHNS HOPKINS HOSPITAL.

No.	Name.	Medicine.	Dose.	Hour.

Fig. 1. Ward cupboard card—Size, 7¼x5¾ inches, with space for 12 names.

ent of nurses, who most thoroughly investigates all conditions surrounding the error.

No medicine is ever given to a patient without an order in a book, signed by a resident house officer (intern), or some one higher on his staff. If the doctor fails to sign his order, which is taken down by a nurse, she has strict orders not to carry it out until it has been signed by a doctor. No cathartic, or purgative, or enema may be given without a signed order.

Besides drugs, the pharmacy keeps on hand thermometers, hypodermic and other syringes, both glass and rubber; glasses for nasal and eye douches, other glassware needed for medical and surgical treatments, measuring glasses, droppers, etc., rubber goods, catheters, Kelly pads, hot-water bottles, etc. Rubber gloves are, however, purchased by the superintendent of the hospital, on requisition from the superintendent of nurses, from various rubber firms, for they do not all make the same kinds of gloves—heavy, medium, and light weights, pebbled, etc.

Rubber sheeting, bed linen, basins, brushes, soap, towels, sponges, and a multitude of household articles are bought on requisition by the matron, and are kept in her department for distribution, and not in the pharmacy.

Gauze, both bandage and dressing, is bought wholesale direct from the makers. There are very few manufacturers of this material in the country, and it all comes practically from two or three sources. For this we make an annual contract, since the amount we use runs into the hundreds of thousands of yards. We buy it in bolts, roll it, and cut our own bandages in any width wanted.

Surgical instruments are bought as needed, in large part from one surgical instrument maker in Baltimore. Both raw and prepared catgut is used, and is bought by the month. Our formula for preparing catgut is as follows:

Wind catgut loosely on cylinders (ends may be held in place by rubber bands). Soak in solution of 10-percent formalin for six hours (take 100 cc. formalin to 900 cc. cold water). Remove from formalin and wash in running water (small stream and cold water) for fourteen hours. Remove from cylinders, and roll the catgut smoothly on bandage rolls to dry. Cut into desired lengths and wind into coils. Dry thoroughly for ten to fourteen days. The catgut is then ready to sterilize by the "albolene method," which is as follows: Line bottom and sides of basket in sterilizer with filter paper. Fill sterilizer with catgut (quantity desired). Raise temperature gradually to 80° C. in first hour. Keep temperature from 80° C. to 100° C. in second hour. Let temperature drop to 80° C. and put on albolene (quantity sufficient to cover catgut) heated to 80° C. Keep albolene at temperature 80° C. to 100 C°., according to size; if No. 1, for one hour; if No. 2, two hours; if No. 3, three hours. After catgut has stood in albolene for required time, raise temperature to 150° C. When cool, transfer to sterile jar and cover with 95-percent alcohol.

Silver aneurism wire we purchase from a Baltimore clock maker; it comes on a spool, and can be rewound when it gets loose. Silver foil is also bought from a Baltimore firm. Safety pins are bought in large wholesale quantities direct from the manufacturers.

We have a large surgical supply room, where goods bought in large quantities can be stored. This room is in charge of one of the assistants of the superintendent of nurses. Here the gauze which has been used, and then washed and sterilized according to the method devised by the Massachusetts General Hospital, Boston, is made up anew into pads, dressings, etc., by probationer nurses. The gauze that cannot be used in this way is put through a cotton-picking machine, and is used as absorbent cotton. The head nurses make requisitions for surgical supplies, as they may be needed, from this store room, and these requisitions are filled by the assistant in charge after the order has been approved by the superintendent of nurses. All requisitions coming from head nurses must be authorized by the superintendent of nurses or one of her assistants. We have printed forms to be used as requisition blanks, on which all ordinary medical and surgical supplies used in the wards are itemized, so that it is easy to file these requisitions away and at any time determine accurately just how much of any article is used in a given time, and whether there is an extravagant amount used in any ward or department of the hospital.

Much most valuable information and help in the purchase of the best quality of certain hospital supplies is secured by us through the Hospital Bureau of Standards and Supplies, established a few years ago in New York. By paying an annual assessment, any hospital may become a member and obtain from the bureau typewritten copies of all contracts entered into by the bureau, which now serves about forty hospitals in New York and elsewhere. A great many articles have now been standardized for hospital use by the approval of an executive committee of men representing the leading hospitals in New York, and, while it is, of course, impossible or inexpedient for us to always buy goods from these contracting firms, yet we have their contracts to guide us in our purchase of the similar quality of goods from some other

manufacturer. These contracts thus serve at least in keeping us informed at what price some special article can be bought, and also indicate the quality which is approved by some of the superintendents of the largest hospitals in the country.

A UNITED STATES HOSPITAL SHIP FOR DEEP-SEA FISHERMEN.

All Other Fishing Countries Provide Against the Inevitable Hazards of This Dangerous Calling—Congress Is Again Asked to Act—Public Health Service Takes Initiative.

By THOMAS W. SALMON, M. D.,
PASSED ASSISTANT SURGEON, UNITED STATES PUBLIC HEALTH SERVICE.

IN the stormy expanse of ocean which stretches from Cape Cod to the Great Banks of Newfoundland is carried on this country's most dangerous trade. Three times more men, in proportion to the number engaged, lose their lives every year in our North Atlantic deep-sea fisheries than in the anthracite coal mines of Pennsylvania. Some go down with their vessels (fewer in these days of well-designed, seaworthy schooners than in former years), some are carried overboard in winter gales, when everything is awash in green seas or asmother in white foam, and many go astray in their dories and succumb to cold or hunger. Loss of life from such causes as these seems inseparable from off-shore fishing. The same causes exact about the same toll in the North Sea and wherever else men must earn their living this way. There is, however, a source of loss of life which is practically unheeded in our own deep-sea fisheries, but effectively controlled in those of other countries. Our own fishermen have come to consider death or disability from untreated injuries and illnesses as one of the inevitable hazards of their calling, but the British public, ever mindful of the welfare of the seafaring man, has provided three hospital ships and four dispensary ships to render emergency aid to the injured and disabled fishermen of the North Sea, and the French send a hospital ship all the way across the Atlantic every year to minister to the needs of their countrymen who go from the islands of St. Pierre and Miquelon to fish on the Great Banks of Newfoundland. Not infrequently this French ship is the refuge of sick and injured American fishermen who happen to be near enough, but during the seven months when this ship is on the other side of the ocean, and at all times when they are away from the restricted area in which she cruises, our fishermen must "grin and bear it," and needless deaths and preventable deformities must be added to casualties which are beyond the power of man to prevent.

Until very recently this remarkable contrast between the solicitude for deep-sea fishermen in other countries and our own indifference could have been said to be the result of ignorance of the need. A few friends of the Gloucester fishermen had called attention to the results of untreated injuries, but the public generally (and Congress particularly) had not had attention directed to the possibility of providing, at small expense, a practical plan for carrying the resources of modern medicine and surgery to those who are injured or who fall ill on the fishing banks of the North Atlantic. This excuse, however, no longer exists. The traditional friend of the American seaman has been the United States Marine Hospital Service, which was established in 1798 for the express purpose of looking after him. Since that time the name of the service has been lengthened and then shortened to its present form, but its uniforms, stationery, and property still bear the fouled anchor—the symbol of the sailor in distress—and the addition of other more important functions has not diverted the interest of the service from its first patient. It was appropriate, therefore, that medical officers of this service should be the first to suggest a definite and practical plan for sending medical and surgical aid to fishermen at sea.

Officers stationed at the United States Marine Hospital at Boston brought the great need for such relief to the attention of the surgeon-general in 1910. They described the means adopted by England and France to meet similar needs, and they presented a carefully considered plan for building, equipping, and operating an American hospital ship. Hon. A. P. Gardner, who represented the Gloucester district in Congress, introduced a bill the following year authorizing the surgeon-general to provide and maintain such a vessel. The friends of the fishermen rallied to its support, and such bodies as the Gloucester Master Mariners' Association, the Boston Fishing Masters' Association, the seamen's missions of Gloucester and Boston, and the Boston Chamber of Commerce testified to the practicability of the plan proposed and to the urgency of the need.

Individuals like Rt. Rev. William Lawrence, bishop of Massachusetts; Jerome Jones, of Boston; James B. Connolly, the fishermen's chronicler; Colonel C. F. Wonsen, of the Gloucester Fishermen's Institute; A. A. Alexander, of the United States Bureau of Fisheries, and John Hays Hammond, all of whom had personal knowledge of the results of failure to provide such means of relief, lent their aid. Congress was not interested, however, and no action was taken. Bills for the same purpose have been introduced in the House of Representatives by Mr. Gardner and in the Senate by Senator Henry Cabot Lodge at the present session of Congress.

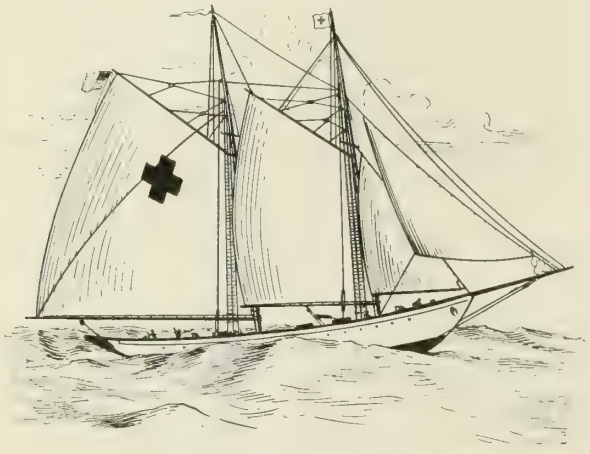

Fig. 1. The proposed hospital ship.

The hospital ships of the North Sea had their origin in the mission ships of the Royal National Mission to the Deep-Sea Fishermen. For a number of years these mission ships followed the British fishing fleets and attended to the spiritual needs of the fishermen. They also looked after their physical welfare as well as they could. The masters of the mission ships had some rough knowledge of first aid, but it was apparent that this was not sufficient to meet the needs. Dr. Wilfred T. Grenfell, then a young London surgeon, spent several weeks on one of the mission ships, and when he returned he made efforts to interest people of influence in this neglected field for medical and surgical relief. Sir Frederick Treves took up the matter with enthusiasm, and before very long the hospital ship "Queen Victoria" was provided. Other vessels equipped for giving medical and surgical relief followed, and at the present time there are three hospital ships and four dispensary ships constantly on the banks, all of them maintained by popular subscriptions and operated by the Royal National Mission to the Deep-Sea Fishermen. When the English fishermen were fired on by the Russian fleet during the Russo-Japanese War, it was aboard one of these hospital ships that the wounded fishermen received "first aid." In 1892 Dr. Grenfell carried the blue flag of the Royal National Mission to the bleak coast of Labrador, and all the world knows what he has accomplished there in the relief of human suffering.

The French hospital ship for fishermen is also maintained by a mission for seamen. The Society of the Workers of the Sea (Société des Oeuvres de Mer) was organized for the same general purposes as the Royal National Mission to the Deep-Sea Fishermen. In 1896, two years after the society was founded, a hospital ship, the "St. Pierre," was fitted out. This vessel, a three-masted sailing vessel, was lost on her first trip. Her two successors, the "St. Pierre II" and the "St. Paul," had serious mishaps, and in 1899 the "St. Paul" was lost. At that time the work of the French hospital ships might have ended on account of failure of funds, but France was stirred by what had been accomplished. Aid from the seamen's friends and a grant from the Government made a new ship possible. The "St. Francois d'Assise," an auxiliary steel barkentine, was provided, and for the last fourteen years she has carried on the work of relief. This ship, in her annual cruise to the American banks, not only cares for acute illnesses and injuries among men of all nations impartially, but she carries back to France every year many who require continued treatment. She is equipped with a chapel, and a priest, who is one of the officers, looks out for the spiritual welfare of the men. Through arrangements with the French Government she acts as a marine post-office. This vessel is supported par-

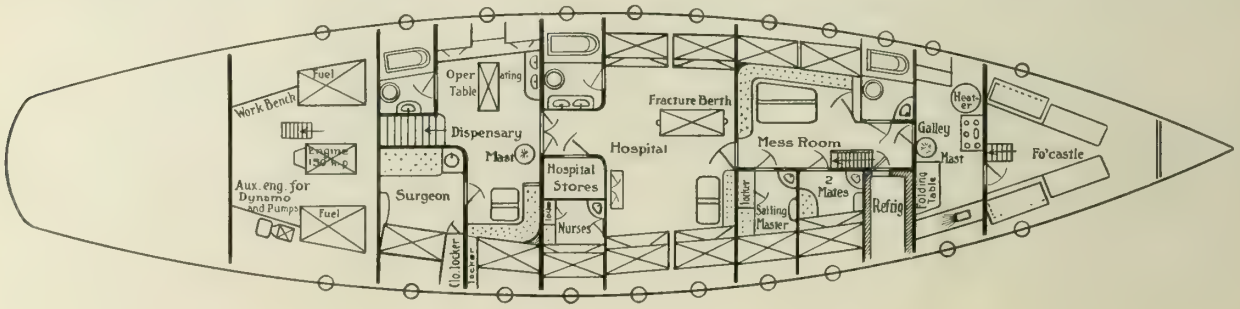

Fig. 2. Accommodation plan of the proposed hospital ship.

tially by a small grant from the French Government, but chiefly through general subscriptions. She is commanded by a retired French naval officer.

Before recommending the provision of an American hospital ship, reports of the work of the English and French vessels for many years were very carefully studied by the medical officers who presented the plan, and a number of masters and owners of fishing vessels and many fishermen were interviewed. There was practically unanimous agreement that a schooner similar to one of the larger and more modern fishing schooners, which go out from Boston and Gloucester, provided with enough auxiliary power to give a sustained speed of at least nine knots an hour under power alone, would be the type of vessel best

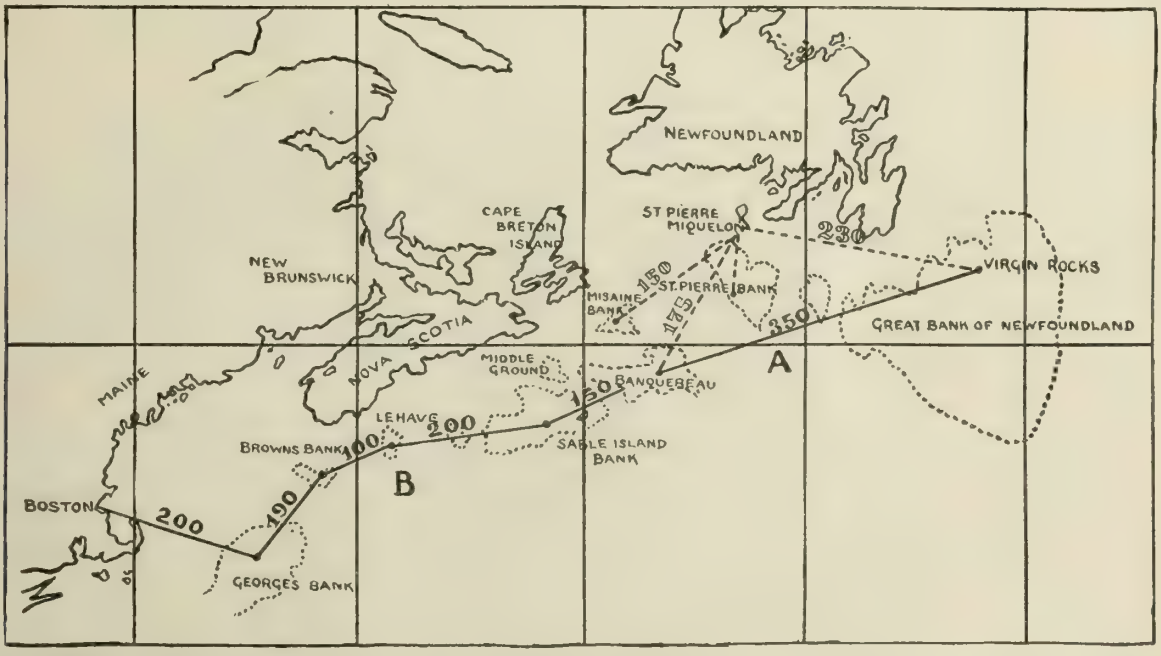

Fig. 3. The cruising ground of the proposed hospital ship. Numerals indicate distances in miles. The light numerals and dotted lines refer to the cruising ground of the French hospital ship.

fitted to perform the duties proposed. It seems to be the general opinion that a hospital ship should conform closely to the type of vessels among which she is to work. It is interesting to know that the hospital ships in the North Sea are identical in construction and plan with the steam trawlers from which they receive their patients.

The vessel suggested, a plan of which is shown in Fig. 0, would be about 126 feet in length on deck, 28 feet in width, and would draw about 17 feet. Auxiliary power would be provided by a kerosene engine of at least 150 horse-power. The use of producer gas, as in the magnetic survey yacht "Carnegie," might well be considered, but there are some disadvantages in this type of power plant, and kerosene has proved very satisfactory in a number of large Gloucester schooners in which engines have been installed. An independent auxiliary kerosene engine would furnish electricity for lighting, ventilating, wireless, winches and windlass, and for an especially designed x-ray apparatus. Heating would be by means of a hot water system, the heater being in the galley.

As shown in the plan, the hospital is located about 'midship, thus gaining advantage of the full width of the vessel and the minimum amount of motion. The hospital contains eight fixed berths of special design and one swinging berth for the treatment of fractures. There is also a folding table, a transom, and a medicine locker. The hospital is lighted by a large skylight, which also ventilates it in fair weather, but blowers and air ducts throughout the vessel are depended upon for ventilation, electric motors providing the power. Aft of the hospital, on the starboard side, is a stateroom for two male nurses and a large locker for hospital stores. On the port side is a bath room for patients, containing a tub, water-closet, and two hand basins.

Aft of these is the dispensary, which extends across the full width of the vessel. On the port side of this compartment are hand basins, a folding operating table, and lockers for instruments and drugs. On the starboard side is a transom and a fixed berth, the latter to be used by the messman. Aft of the dispensary, on the starboard side, is the medical officer's stateroom, and on the other side of the main companionway the medical officer's and nurses' bath room. The engine room, which contains engine, fuel tanks, and the auxiliary engine, is separated from the other parts of the vessel by a watertight, steel bulkhead ex-

tending all the way across the vessel. There is access to the deck from this compartment by means of a companionway, which also furnishes ventilation in fair weather.

Forward of the hospital, on the port side, is the officers' messroom, which also contains fixed berths for the engineer and the cook. Opening into the messroom on the starboard side are staterooms for the sailing master and the two mates. In the forward part of the messroom the refrigerator is located on the starboard side; the bath room for officers and crew is on the port side. There is access to the deck from this compartment, which is well lighted by a large skylight. The galley, forward of the messroom, extends across the entire width of the vessel, and contains a coal range, the necessary dressers, a sink, and a hot-water heater. Forward of the galley is the forecastle, with berths for six seamen. The forecastle has access to the deck. Three fresh-water tanks, each having a capacity of 200 gallons, are in the hold under the hospital, and there is plenty of room for stores and provisions in a hold under the messroom. Room is provided for extra sails and boatswain's stores in the lazaret.

The chief advantages of a schooner, compared with a small steamer, would be the low cost of operating, its seaworthiness, and the comfort possible in bad weather. A large steamer would undoubtedly have these advantages and other very important ones, but it is feared that the cost would be considered by Congress to be prohibitive. The yearly cost of operating a 900-ton steamer, with a crew of thirty-four officers and men, would about equal the yearly cost of maintaining the United States Marine Hospital at the port of Boston.

The following estimate of the yearly cost of such a schooner as the one proposed was prepared after consultation with many ship owners and designers:

VESSEL AND POWER PLANT.	
Hull, spars, sails, rigging, tanks, and deck gear	$17,500
Power plant, complete	4,500
Auxiliary engine, lighting, etc	1,500
	$23,500
EQUIPMENT	
Boats and boat outfits	$ 1,000
Lights and signals	100
Lamps and lanterns	100
Navigating instruments and charts	250
Flags	85
Tarpaulins and covers	100
Boatswain's stores	250
Engineer's stores	200
Galley equipment	150
Linen and bedding	250
Hospital and dispensary equipment	500
Medical and surgical supplies	250
Miscellaneous	265
	$ 3,500

The following estimate of the cost of operating was prepared after similar consultation, Mr. John R. Neal, of the New England Fish Exchange, giving very valuable advice on the subject:

SALARIES.	
1 commissioned medical officer[1]	$.....
1 sailing master	125
1 first mate	75
1 second mate	60
1 engineer	75
2 nurses (at $50 each)	100
1 cook	50
6 seamen (at $40 each)	240
1 messman	35
	$ 760
RATIONS.	
15 rations for officers and crew[2]	$ 180
7 rations for patients[2]	84
FUEL.	
4,000 gallons of kerosene[3]	$ 240
MISCELLANEOUS.	
Miscellaneous	$ 236
Total for one month	$ 1,500
Total for one year[4]	18,000

The plan of work suggested is to make Boston the headquarters of the hospital schooner and to have the work performed in close cooperation with the United States Marine Hospital at the port. In winter it would be desirable to cruise as far north as Banquereau, making as many return trips each month as possible. In summer it would be desirable to make at least one trip a month to the Great Banks of Newfoundland.

The officer in command of the schooner should be a commissioned medical officer of the United States Public Health Service. He should be responsible for the efficiency of the work of relief, the economical management of the vessel, and the discipline and efficiency of the personnel.

The sailing master should be an experienced master of fishing vessels, the mates should be experienced men, and the crew, as far as possible, should be fishermen familiar with the conditions of fishing off the North Atlantic coast and expert in the handling of dories in rough weather.

The great number of marine disasters last winter turned public attention again to the dangers of the sea. In each of these disasters a new aspect of the simple bravery of seafaring men was shown, and the newspapers took occasion, after every one of them, to praise the traditions of a calling which makes those following it give their lives for their fellowmen as part of their daily work and without a thought of unusual heroism. The "shouting dies" soon after such news is cold,

[1]Provided for under appropriation, "pay and allowance of commissioned officers and pharmacists."
[2]Forty cents per diem. It would be better to have rations of officers and crew commuted at this rate.
[3]Seven hours' "steaming" per diem.
[4]To which should be added at least $2,000 for hauling out and repairs.

but anyone who was thrilled by the tales which came from the sea last winter can help personally to show that the American people as well as those of other lands take thought of the sailor. He can urge his representative in Congress to provide a means for preventing needless deaths and for relieving preventable suffering among those who live up to the finest traditions of an ancient and honorable calling, and who are worthy successors of the breed of seafaring men who carried the American flag all over the world in the great days of the American merchant marine. Our deep-sea fishermen cheerfully accept risks in time of peace which would make them heroes in time of war. For many years this Government has provided for them hospital relief *ashore*, where it is often too late to be of service. Is it too much to ask Congress to appropriate an amount equal to the cost of the coal alone in sending a battleship from New York to Key West, so that a means may exist to provide hospital relief *afloat*, when it would come in time to save life and relieve suffering?

SPECIAL BUILDING FOR DOMESTIC EMPLOYEES.

Grace Hospital, of Detroit, Meets a Serious Hospital Problem by Providing Home Recreation and Good Social Surroundings for Its Staff of Workers.

By W. L. BABCOCK, M. D.,
SUPERINTENDENT OF GRACE HOSPITAL, DETROIT.

IN June, 1913, the Board of Trustees of Grace Hospital authorized the superintendent to obtain plans, specifications, and bids for the construction of a building to accommodate one hundred employees engaged in the domestic departments of the hospital. The decision to build a unit for domestic employees was the result of the following conditions, which are duplicated in the majority of large hospitals:

1. Lack of sufficient and adequate accommodations for domestic employees in existing hospital buildings.

2. The hospital has been paying over $3,000 per year for the rental of buildings and rooms in the neighborhood for domestic employees.

3. The housing of domestic employees in rented rooms removed them from the disciplinary control of the matron, especially while they were off duty.

4. As a sequence, residential neighbors occasionally complained of the conduct or retiring hours of the domestics.

5. The matron complained that the level of efficiency, especially in the summer time, was low, owing to a late hour for retiring, which was not under her control.

6. A total lack of social atmosphere, due to the failure of institutions to provide recreation or amusements for the household employees.

7. A belief that improvement in the lodging accommodations would enable the hospital to obtain a better class of domestic employees.

SITE.

As plenty of ground was available, it was determined to place this unit at a distance from the buildings occupied by patients. The building was, therefore, located on the southeast corner of the city block, the greater part of which is owned or leased by the hospital. The hospital buildings occupy the north and west sides of the square. The employees' building is fully 260 feet from the nearest building occupied by patients and faces in the opposite direction. The writer is fully aware that the location of these buildings should be reversed, or, in other words, the hospital buildings should occupy the south and east extremities of the square in order to take advantage of sunlight and climatic conditions dependent thereon. The first hospital buildings were originally constructed on the northwest corner of the block, and the south and east property acquired only within the past three years. The distance of the employees' quarters from the hospital buildings insures the sick from disturbance on account of disorderly conduct or noise on the part of domestics, and, on the other hand, provides the domestics with a complete change of environment. The employees' building faces a city park in a residential neighborhood occupied by a high class of residents. The building is cut off from neighboring residences on one side by a park boulevard and on the other side by a 20-foot alley.

CONSTRUCTION.

The employees' building was designed by Albert Kahn, of Detroit, who is well known in the middle West for his artistic exterior treatment of public buildings. The plans were completed and construction commenced early in September, 1913. Owing to favorable arrangements with contractors and good weather, the building was inclosed before snowfall. One floor was occupied on April 15 and the remaining floors are practically

Fig. 1. Grace Hospital—Employees' service building.

ready for use. The construction was also facilitated by the simplicity of the plans. The building is L-shaped, semi-fireproof, contains three floors with basement, and is constructed of hard-faced, dark red brick, trimmed with gray artificial stone. The stairway wells are built of fireproof hollow tile, and all doors entering stairway wells fireproofed with metal and heavy wire glass. The entrances to the building have been arranged so that the sexes do not come in contact while entering or leaving the building.

CAPACITY AND COST.

The building will accommodate 96 people, including a suite for the matron and a wing for the resident house staff. One-third of the rooms are single rooms and the remainder double rooms. No dormitories were provided. The cost of the building without furnishings was $45,000.

ARRANGEMENTS FOR CLASSIFICATION OF EMPLOYEES.

The short arm of the "L" was constructed for the resident house staff, who are provided with a separate entrance on Alexandrine avenue and a porch facing Brush boulevard. Accommodations are provided herein for twelve residents, the remainder of the house staff having suitable accommodations in the main hospital. The resident staff wing has no communication with the remainder of the building. The matron's, or main, entrance faces Alexandrine avenue at the south extremity of the long arm of the "L," and will be used only by the matron, her assistants, and visitors. The entrance for women domestics is by a sidewalk leading from Alexandrine avenue within a wire fence inclosure running parallel with the alley. The entrance for men is on the opposite side of the building to the rear. The first floor, except the resident staff wing, and the

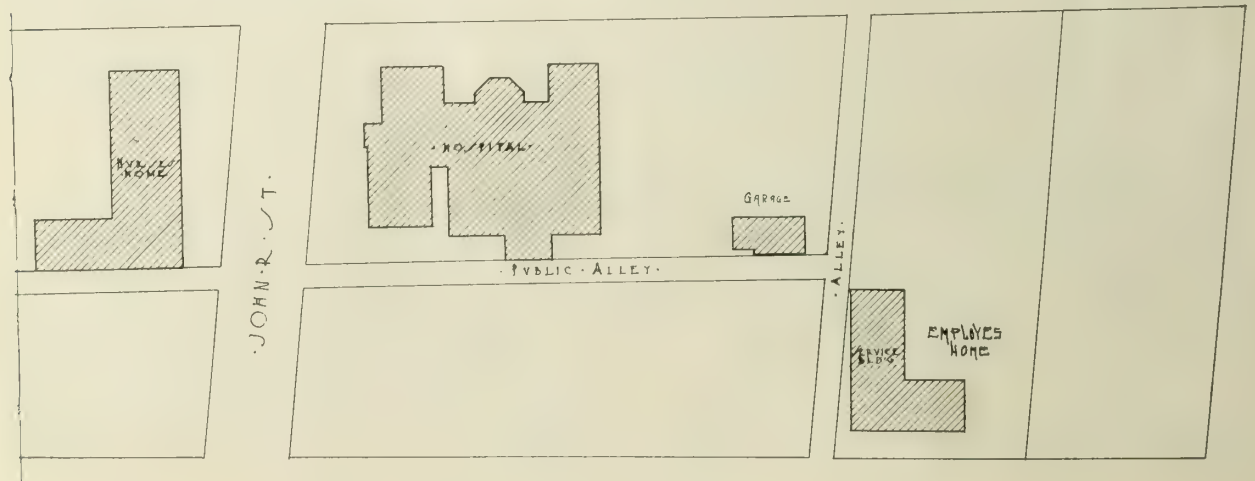

Fig. 2. Grace Hospital—Plot plan of employees' service building.

entire second floor will be occupied by the matron, the matron's assistants, and women domestics, and the third floor by men employees. The third floor of the wing has been designed to accommodate the male clerical force and has separate balconies, toilet suite, etc.

BASEMENT.

A lounging room for men, reached only from their stairway entrance, is provided. This room is 36½x14 feet, contains four windows, and has a 9-foot ceiling. At one end is a toilet room, containing lavatory and closet, with outside light and ventilation. The room will be provided with card tables, games, etc.

A small dining room and kitchen are provided in the basement for the use of the women domestics in arranging for little parties or lunches. These rooms are reached from the women's entrance only. It is not planned to serve regular meals to employees in this building. Dining rooms for employees are provided in the main hospital. The remaining rooms in the basement are linen storage room, garbage and refuse room, trunk room, general storage rooms, and hand laundry, fitted with stone tubs and electric irons for the use of the maids and domestics who wish

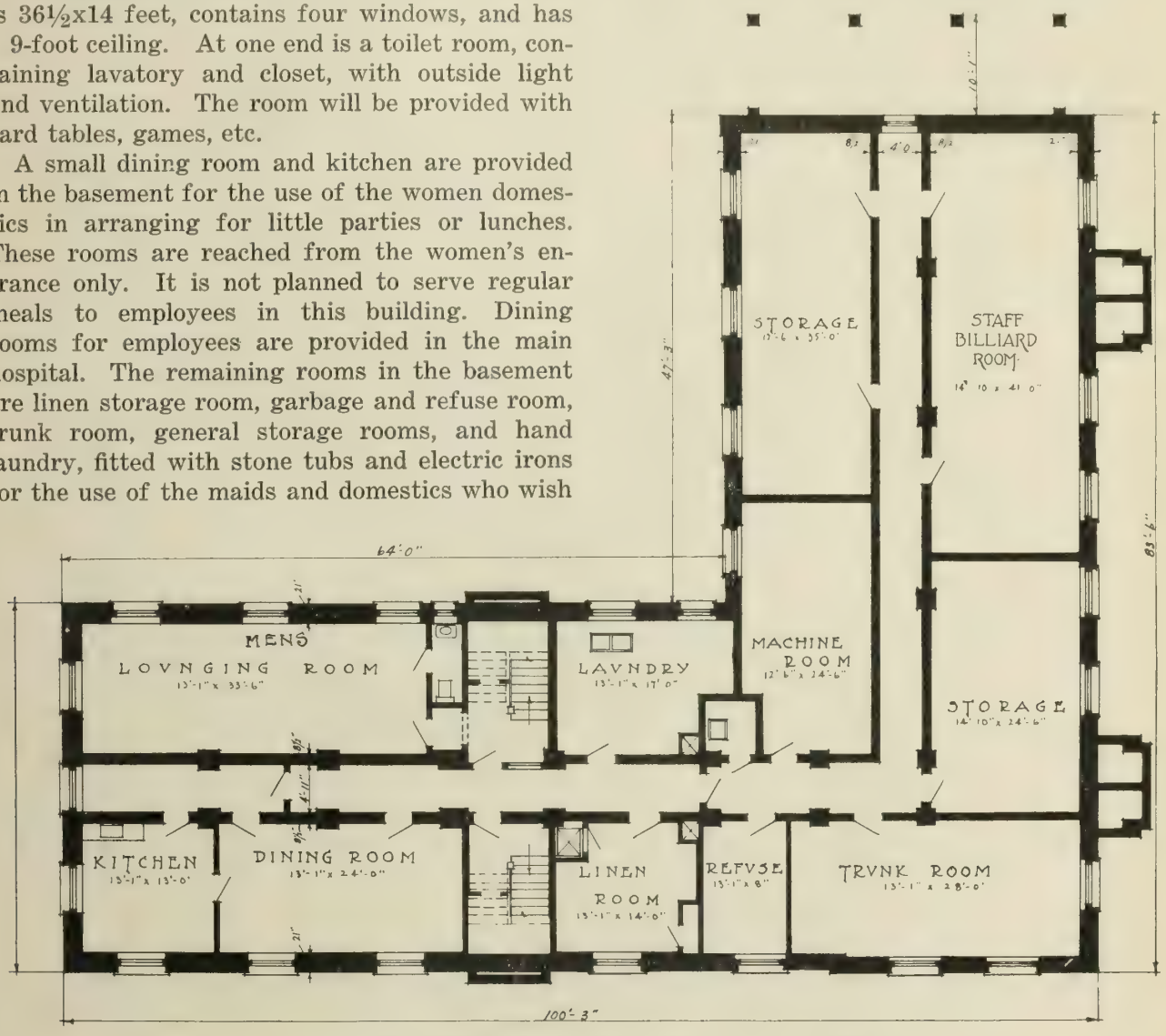

Fig. 3. Grace Hospital—Basement plan of employees' service building.

to do their own laundry work. Another room in the basement has been set aside as a billiard and pool room for the house staff, and will be equipped as their recreation room. This room is 40x14 feet, and has four windows.

FIRST FLOOR.

The house staff wing, which will accommodate twelve physicians, has a sitting room to the right of the entrance and a wide porch, or balcony, facing the east. The matron's suite is to the left of the main entrance, and consists of sitting room, bath room, and clothes room. The remaining accommodations on the first floor will be occupied by the matron's assistants, linen room girls, seamstresses, waitresses, etc. Each single room has a large clothes closet, and each double room two large clothes closets, with double doors. When these doors are open, the clothes closet is a jog in the room rather than a separate compartment, thus facilitating cleaning and inspection of closets.

SECOND FLOOR.

This entire floor will be occupied by chambermaids, cleaners, etc., and has ample bath room and toilet facilities. A sitting room is provided for the use of this floor.

THIRD FLOOR.

As heretofore stated, a unit, with separate and ample toilet and bath rooms, balconies, etc., is

provided for the male clerical employees. The main wing on this floor is arranged for the accommodation of housemen, porters, janitors, etc. A recreation and lounging room for these men is provided in the basement, as heretofore described.

UTILITY AND WORK ROOMS.

Linen, mop, and slop closets have been provided on each floor, and a central storage linen room in the basement. A small freight elevator serves all floors, and speaking tubes and floor telephones are also provided. The usual laundry and dust chutes have been installed, the former of which leads to the basement laundry and the latter to the refuse and garbage room.

ROOF GARDEN.

The roof is flat and circled by a 4-foot brick wall. It is intended for use only during pleasant weather and is without covering. The roof garden entrance is from the men's stairway well.

ELECTRIC LIGHTING AND HEATING.

The living rooms are all provided with a 100-watt ceiling lamp and a flush side wall receptacle, with a reading lamp socket. All rooms are provided with reading lamps, properly shaded, so that the ceiling light can be switched off and the table lamps used generally. The corridor lights are direct illumination ceiling fixtures, arranged to deliver the full efficiency of the tungstens. The only ball globes used are on vestibule, porch, and balcony fixtures.

HEATING.

The building is heated by means of direct radiation in all rooms, the radiators being suspended on iron brackets, which extend into the brickwork of the outside walls. The radiators are under windows, and suspended 6 inches from the walls and 8 inches from the floor, so as to permit of easy cleaning and inspection. The first and second floor corridors are heated by direct-indirect stacks from the basement. These stacks are provided with condensation coils, receiving the condensation from the steam radiators of the upper floors. These cooling coils remove all heat units from the condensation, which is thence transmitted direct to the sewers as cold water. The superheated air is carried to register-faced openings in the corridor side walls. The steam is furnished by a central heating plant, with a battery of sixteen boilers, located at a distance of one and one-half blocks from the building. Low-pressure steam arrives at the intake valve at a pressure of five pounds and is controlled by a reducing valve in the machinery room. The same central heating plant has furnished all of the main hospital buildings with high- and low-pressure steam for a period of eight years without interruption, with a decided sanitary improvement and financial saving to the hospital.

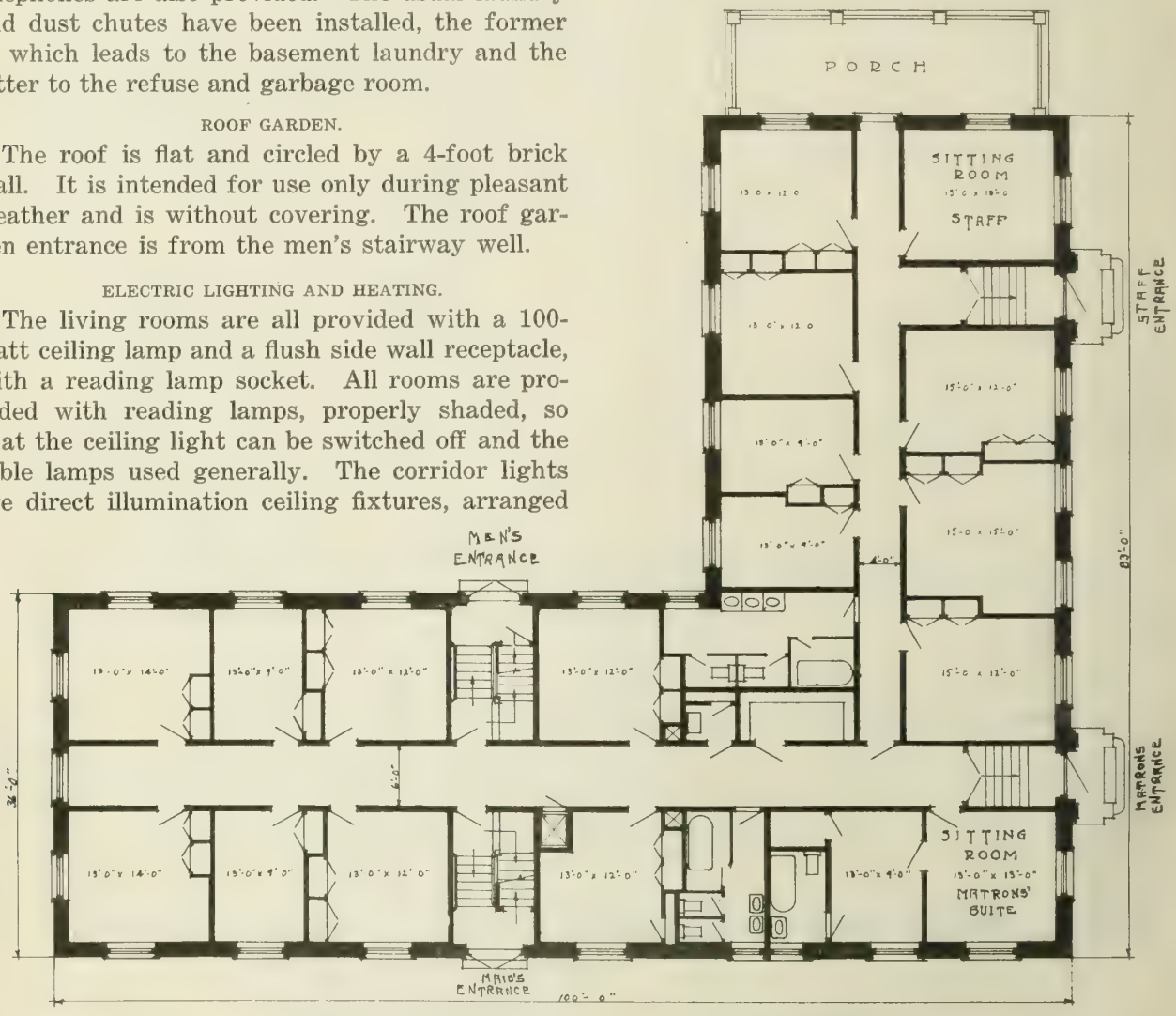

Fig. 4. Grace Hospital—First floor plan of employees' service building.

FLOORS AND STAIRWAYS.

The basement and laundry floors are of cement, with smooth finish; corridor and living room floors, maple; sitting room, oak; toilet rooms, mop rooms, and slop rooms, terrazzo; and stairways of oak, with rubber treads.

WOODWORK AND FINISH.

The woodwork throughout is of plain or imitation oak finish, with fumed oak effect. The living rooms are decorated in soft greens or buff, with 5-foot dado, and ceilings painted white.

The economic and social questions involved in the housing or non-housing of employees is of great importance in the judgment of the writer. After years of experience it has been found that segregation and independent housing of pupil nurses has been an economic agent that has paid large dividends in efficiency. The development of nurses' homes during the past fifteen years has undoubtedly increased the efficiency of the pupil nursing force of every hospital which aims to create a homelike and social atmosphere. The same argument used for nurses applies equally to domestic employees. The material available for domestic work in hospitals in most cities comprises many applicants of foreign extraction and many girls and young men from the country. This material is elastic and pliable, and easily influenced by recreational allurements of city life. Counteracting social influences of the better class are necessary if we value the continuity of service of a trained hospital employee. The average length of employment of the majority of hospital domestics is lamentably short, and, while the short average period is due to a variety of causes, it is quite certain that one of the causes can be eliminated if the social environment of the employee is bettered. Many of these employees are away from home, and the best results can be obtained if a home is made for them.

The financial element is of importance. Employees who receive board at the hospital and room outside must be made an allowance ranging from $6 to $12 per month, according to local conditions. If meals are not furnished, an additional $12 to $18 per month must be allowed for board. As many of the domestics in the hospital receive from $16 to $20 per month as a wage, the anomalous situation develops where the hospital is paying more for lodging and board, etc., than is paid for wages. Estimating the employees' board at 30 cents per day—a figure that is not far from the average—and the room at $2.50 per week, we find in comparison that the hospital is paying from 25 to 50 percent more than it costs when employees are housed and boarded in rented quarters. This, of course, represents the margin of profit to the landlady or owner of the rented property. When the social and disciplinary benefits of the unit housing of employees are added to the financial economies, a good affirmative showing is apparent. In fact, it would appear that hospitals of sufficient size would be justified in paying interest on a sum sufficient to construct and equip an employees' home in order to reduce the financial burden of rented accommodations, and thereby acquire disciplinary and social control of its working force.

Low maintenance cost per capita has been constantly kept in view in the planning and construction of the employees' building described in this article. The segregation of four classes of employees by means of four internal building units, heating from a central plant, direct electric illumination, the use of reading lamps, and certain construction features should keep the per capita cost of maintenance of the building at a reasonable figure.

DIRT AND MECHANICAL CLEANLINESS.

Surgeon and Housewife Would Differ as to "Dirt"—Cleanliness Begets Cleanliness.

The bulletin of May 8 of the Public Health Service contains, among many other instructive items, an article on the fetish of protected devices of every sort sold as "sanitary." This item closes with the following timely suggestions on "dirt and mechanical cleanliness":

"A word about dirt and mechanical cleanliness. 'Dirt' means various things to the housewife, the sanitarian, the surgeon, the chemist, and the bacteriologist, depending on its composition and location. A surgeon might operate successfully in a room which a housewife considered untidy, but not with a knife which she would pass as clean. A bacteriologist might carry out successful research in a cellar which a dainty housewife would hesitate to enter, but not by using glassware cleaned by her methods. The sanitarian must appreciate the various standpoints from which 'dirt' is viewed, and must balance that cleanliness which is practical against what is theoretically desirable. But if his viewpoint is sufficiently inclusive, he will contend that grossly visible dirt, in the sense of the housewife, is always prejudical to sanitary conditions. Even if the dirt does not of itself contain disease germs, its presence conduces to practices which are menaces to health. Promiscuous spitting on the floor is admittedly a dangerous practice. Will a person (capable of doing it at all) be more apt to spit on the floor of a neat apartment or on that of a dirty, ill-kept one? Will householders be more apt to dump rubbish and filth on the muddy banks of a black, foul-smelling stream, or on the grassy slopes of a clear and wholesome river? There are incorrigibles, it is true, with whom the law must deal, but the general run of our citizens are susceptible to their surroundings, and respond to a neat, well-cared-for environment by improving their habits and practices, and incidentally their sanitary condition as a body."

Hospital associations have been created recently and are supposed to care for the sick at small cost to the patient, providing medical services, drugs and necessary hospital care. It is claimed the promotors are diverting legitimate practice from physicians, employing a few at low contract price. It has been but a few years since these hospital associations have increased to such an extent in Washington, Oregon, and other sections that they have begun to attract the attention of state officials.

PURCHASING AND DISPENSING OF HOSPITAL SUPPLIES AND DRUGS.[1]

Prearrangement With the Hospital Board for the Year's Supplies Contributes Toward Economy, Efficiency, and System—Careful Consideration of Each Article Determines When, How Much, and What Kind to Buy.

By ELIZABETH A. GREENER,
SUPERINTENDENT OF HACKLEY HOSPITAL, MUSKEGON, MICH.

PAPER VIII.

THE subject of the purchase of supplies for hospital use opens up an almost endless field for discussion and consideration. In large institutions this one branch of work often necessitates the employment of a number of experienced buyers, while in the small hospital it goes almost without saying that most of the regular or special material used must be purchased by the superintendent. This important part of the work is really a great test of ability and judgment, both in the judicious and economical purchase of necessary supplies and in the elimination of such articles as are not strictly necessary or of good values.

In the small hospital it is a good plan for the superintendent to make up a yearly estimate of the probable amount of regular supplies needed for the coming year, together with a list of new articles which should be purchased, such as additional furniture or furnishings. This estimate should be carefully made and must include probable purchase price of all articles. This should be presented to the board of the hospital in order that they may have an opportunity to consider in advance the probable regular running expense of the hospital, and the advisability of purchasing the additional new material as recommended by the superintendent. This plan is followed in our hospital. After consideration of the estimate as submitted, with necessary explanation and comments, the purchase of all or of as much of the material as seems advisable is authorized by the board and the matter of purchase generally left to the superintendent.

It is a good plan to have a special time of year for the purchase of certain articles. The hospital in a small city should always consider the advisability of purchasing as much as possible from local dealers, who should be given an opportunity of submitting samples and prices, especially when considerable purchasing is to be done. At the same time the hospital should never be hampered in selection, nor expected to sacrifice quality or economy for the purpose of catering to local dealers, for strict business methods are as necessary and valuable in hospital work as in any other.

The value of having a stock of goods on hand at all times is undeniable. The greatest criticism and almost the only one which can justly be made of this plan is that it leads to extravagance of use. Where the stock can be directly controlled, however, by two or three people, who have the best interests of the institution at heart, and where a proper system and method of dispensing supplies is observed, this danger can be obviated.

Each year we contract with the manufacturers or the large surgical houses for our annual supply of gauze and cotton. This contract is arranged either through salesmen representing the house or by direct correspondence with the manufacturers. In either case samples are submitted and the contract placed with the firm offering the best value at the lowest figure, quality always being considered in this as in other purchases. In these contracts one-half of the amount ordered is delivered immediately, the remainder at the end of six months. Nonabsorbent cotton is contracted for with local dealers in quantities sufficient for six months. The quality of the gauze and cotton purchased was discussed in an earlier paper.

As we have large, commodious, well-lighted store rooms, we are able to purchase a full year's supply of linen at a time and care for it properly. The amount purchased is determined by our yearly estimate. We have tried two methods of purchase—one from samples brought or sent to us, the other by direct purchasing in the large department stores, where special contract prices are offered to institutions and hotels—and find the latter method much the more satisfactory. In purchasing in this way, one frequently sees or finds new things much better fitted for the required purpose than those which it was originally intended to purchase. The amount of linen necessary for use in a hospital always appears incredibly extravagant to the average layman, as few people outside of hospitals realize how inadvisable and wellnigh impossible is economy in this line, and how difficult to conduct a hospital properly without a generous stock for emergencies, which may be called on at any time. We have found that the best economy consists of purchasing one good grade of ready-made sheets, pillow slips, and counterpanes for the entire hospital. While at

[1] This is the seventh in a series of papers on internal administration of a small hospital. Last month, "Food Supplies and Service;" next month, "Administration of Special Departments."

first sight this seems like an extravagance, it will be seen that in a small hospital, like ours, where it is possible to have a central linen room, this is an economy. In the distribution of linen from this room the definite order is to always send the newest and best articles to the private pavilions. All linen which is worn, mended, or discolored is sent to the general wards, where it looks infinitely better than the coarse unbleached material used in so many hospitals. If two grades of linen were used, we would be unable to follow this plan, with the result that the private pavilions would be obliged to use up their own old, mended linen, which is very often apt to create dissatisfaction and cause adverse criticism among private patients who are paying extra for special consideration and service.

We have also adopted definite patterns of toweling for different parts of the house. For example, all surgical towels are of crash, with a tiny pink stripe in the edge. No one connected with the institution would ever think of using these towels for other purposes. Dish towels, glass towels, etc., have their distinct pattern and color. This fact assists greatly in the sorting of linen, and insures the towels being kept for their own legitimate uses. The towels used in the private pavilions are of white huck, with blue markings. Those used in the general wards are of huck or crash, which comes by the roll, and is made up in our sewing room. Linen for the use of the nurses is marked in red. In the private pavilions we use linen tray covers and napkins. In the wards we use those of Indianhead cotton, with the name of the hospital in blue lettering.

Blankets are always a problem in every hospital. We purchase those costing from about $3 to $5 per pair, depending on the part of the house in which they are to be used. Higher-priced blankets simply cannot be used with any degree of satisfaction on account of the excessive shrinkage in washing, even when done under the best of conditions, while dry cleaning is frequently most unsatisfactory. In the private rooms we use the single pattern blankets for wheel chairs, and gray army blankets for those in the general wards.

While a certain number of ready-made gowns are purchased for use in the operating room, it has been found more satisfactory to have them made. Those purchased ready-made are usually of a heavy twill, which shrink with every washing until they become almost of an unusable size. We buy a fairly heavy sheeting for this purpose, which is shrunk before being used. The gowns are made by a seamstress in our own sewing room, cost us only about 90 cents each, and wear much better than the ready-made ones.

For binders of all kinds we purchase a heavy quality of unbleached cotton, while for laparotomy stockings we use the unbleached cotton flannel. These are also made in our sewing room.

All baby clothes used are furnished by the hospital, and are also made by our seamstress. We have a very heavy obstetrical department, and this one item increases the running expense of this department greatly.

Night gowns, pajama suits, and turkish bath robes are also furnished the patients, and have to be considered in the yearly estimate, as they are usually purchased but once each year.

The nurses' uniforms, caps, belts, bibs, and aprons are furnished to each pupil as accepted into the school. The blue gingham for the uniforms, as well as the white cotton material, is all included in the yearly estimate and purchased with the other linen.

As each nurse enters training she is furnished with an entirely new set of text-books for her own use. If she remains in the school, she is expected to purchase this set of books at the end of the first year, when her allowance starts. By following this plan our text-books cost us very little, and our nurses are put to no expense in the matter until they are in a position to pay for their books. We allow them three months after their allowance starts in which to settle this account. Only actual text-books are purchased, blank-books and other stationery being furnished by the hospital. We also purchase most of the new text-books as they appear and add them to the nurses' reference library.

There is probably no purchasing that in many ways is so trying to hospital superintendents as that of rubber goods. There is more chance for unsatisfactory buying in this one department than almost any other, as it is impossible to prevent the deterioration of rubber. Cheap rubber goods are expensive at any price, and even the high-priced ones are frequently not entirely satisfactory. We purchase most of our rubber goods from two well-known houses, whose names are a guarantee of quality. We buy only those grades of hot-water bags having a two-year guarantee, and do not hesitate to return any defective or unsatisfactory goods for exchange.

The subject of rubber gloves was discussed in an earlier paper. As an accommodation to our staff, we keep on hand a sufficient stock of gloves to meet the requirements for hospital use, and let them have these at cost price. We also have sufficient extra stock for the use of our interns and nurses.

We carry very little enamel or glass ware in

stock, as we find it more economical to order this material as required.

Until quite recently all catgut used in our hospital was prepared from the raw material in the operating room by our surgical nurses. This preparation, however, took a great deal of valuable time, and was always a matter of responsibility and anxiety. In the past few years there has been such decided improvement in the quality and price of the prepared sutures on the market that we now feel greater protection can be afforded both patient and surgeon by the use of catgut prepared in special laboratories for that purpose, rather than by that prepared even under the most careful and painstaking effort in the general hospital. We have, therefore, discontinued the preparation of catgut, and, although the expense is somewhat greater, we feel that the safety of the patient and protection of the surgeon must be our first consideration.

Surgical instruments are furnished by the hospital for the use of our surgeons. When new instruments are needed, a letter recommending the purchase of such instruments as are required is sent by the doctors' committee to the hospital board. No new instruments are purchased without this form of requisition, except the simple ones needed for ward dressings, which are ordered as necessary by the superintendent.

We have an absolutely first-class quality of white hair mattresses throughout our institution. While the initial cost of good hair mattresses is undoubtedly high, they are certainly much the cheapest and most satisfactory in time, as they can be renovated so beautifully and kept so much cleaner than any other kind.

Once each year an order for hospital crockery is sent to a house with whom we have a contract for decorated china for the private pavilions, and plain white ware for the wards.

All ordinary kitchen laundry and cleaning supplies are purchased by the dietitian, who has the charge of all housekeeping arrangements.

Small supplies for general repairs in the hospital or service building are purchased locally by the head engineer after his requisition has been approved by the superintendent.

Any requisition for new or additional equipment about the hospital or grounds is submitted to the building or grounds committee, who either authorize the immediate purchase or take up the matter officially with the entire board.

Each year we plan to purchase a certain amount of new furniture and rugs to take the place of those which it becomes necessary to discard. These new furnishings are placed in our best rooms, and their furnishings in turn moved into lower-priced ones. By this plan all rooms are kept looking well, and shabby and worn-out articles are gradually eliminated.

PURCHASING AND DISPENSING OF MEDICINES AND DRUGS.

In purchasing medicines, drugs, or chemicals, all articles which do not deteriorate by keeping are purchased in bulk. Disinfectants are bought by the keg or in hundred-pound lots. We have one large stock room for articles in bulk, and a well-equipped pharmacy in which all medicines and drugs in common use are kept. The house surgeon has entire charge of this department, and makes out the requisitions for general stock on the last day of each month. Special orders for proprietary medicines are sent to local dealers and charged to the patient. Other medication, except very expensive drugs, is furnished free of charge.

We make up all of our tinctures, homeopathic dilutions, mouth washes, certain ointments, and a number of other preparations. The amount of pharmaceutical work of this order done naturally varies with the ability and energy of the house surgeon, who compounds ordinary prescriptions and dispenses all drugs used.

Each ward or department is furnished with a drug basket and a requisition book, in which the order for all drugs needed for the next twenty-four hours is written up each morning by the head nurse. These books and baskets, containing the empty stock bottles and boxes, are sent to the pharmacy by 9 o'clock each morning and are returned to the ward before 11:30, so that medicines ordered for midday treatments are available by that hour. In the meantime, if any additional drugs or special prescriptions have been ordered by visiting physicians, the head nurse sends for the order book and adds them to the list. No drugs are supposed to be dispensed after the baskets have been returned, except those which have been ordered by the staff later in the day. Unless in case of great emergency, these special orders are placed on a file kept outside of the drug room door for that purpose and attended to by the house surgeon as soon as convenient.

Each ward has its own well-equipped glass medicine cabinet, where for convenience the head nurse is expected to keep all ordinary drugs in daily use. Any special drug or prescription medication is returned to the pharmacy after the patient using it has been discharged. For stock solutions we use the glass-labeled bottles. Carbolic acid is always dispensed in dark-blue rough glass bottles, and nothing else is ever dispensed in bottles of this color.

In each medicine closet we keep ready for immediate use a hypodermic outfit. This consists of

an oblong white enamel tray, on which is a hypodermic, a glass alcohol lamp, matches, spoon, three low, flat glass bottles—one for alcohol, one for sterile water, and one for 1-in-20 carbolic solution—two glass jars about 2½ inches in diameter —one containing gauze wipes in alcohol, the other sterile cotton—a small pair of thumb forceps, and about six glass vials containing the most commonly used hypodermic tablets. When a hypodermic is to be given, the nurse has only to lift out this tray and has everything there needed for immediate and rapid preparation. She is expected to see that everything on the tray is in perfect order before returning to medicine closet after use.

We have very strict rules in regard to keeping medicine closets locked at all times, and keeping all drugs on the ward inside of the closet. We also have a rule that at no time may a pupil nurse change the label on a bottle or transfer medicine from one container to another.

In general, it may be said that in purchasing for the small hospital the best satisfaction and economy is obtained by selecting a few satisfactory firms where good service and prices are given, and placing with these houses orders in sufficiently large amounts to make them worth handling. Many small hospitals claim that they cannot afford to purchase more than a small amount of goods at a time on account of the expense, yet at the end of a year their bills aggregate a higher total than if they had followed this plan by reason of higher prices paid for small orders of goods and more frequent freight and express charges, and has also greatly increased the work in their bookkeeping department.

Frequently considerable money is spent in the course of a year by the purchase of unnecessary material. Successful buying depends not only in the purchase price of goods bought, but also in the prevention of unnecessary or unwise buying. This work must be supplemented by the teaching of principles of economy in those intrusted with the care or dispensing of supplies and in the prevention of misuse or waste, together with systematic methods of requisition and exchange throughout the hospital.

FIRST AID HOSPITALS FOR INDUSTRIAL PLANTS.

Originated for Reasons of Philanthropy, These Features of Industrial Corporations Have Become an Important Part of Financial Policy and Efficiency.

By PERRY R. MacNEILLE, New York.

THE first aid hospital or private hospital for industrial plants has already taken its place among those institutions which advance efficiency in the field of production. While it is true that many of the hospitals so established have been created as the result of philanthropic motives, yet the results obtained now warrant their creation from purely financial considerations.

The Norton Company, of Worcester, manufacturers of grinding wheels and other abrasive products, have some very interesting data bearing on the increase in efficiency of their workmen that has resulted from the work of their hospital. The hospital consists of three rooms in their new administration building. A male trained nurse is in constant attendance, and the shop physician makes regular visits of an hour and a half each morning and afternoon. In the twelve months ending August 31, 1913, 2,201 cases of sickness and accident were treated in the hospital, of which approximately one-quarter were accident cases, practically all of them of a minor nature. It is interesting to note that the majority of cases treated are those of sickness, nine-tenths of them due to slight but troublesome ailments, and that the hospital has been particularly effective in reducing the time lost by the workmen from these causes. Their comparative statistics show that in corresponding periods of 1912 and 1913 the time lost in sickness cases in 1913 is 44.9 percent less than in 1912. In the same period the saving in time lost from accidents is 77.8 percent.

Through the hearty cooperation of the men in coming to the hospital for treatment of all wounds, out of over 1,000 cases treated there has been but one slight case of infection. This has been a great factor in reducing the hours of lost time from accident. In the sickness cases, men come to the hospital prepared to go home, but, on finding that their ailments are not of a serious nature, willingly return to work again. The hospital has been particularly beneficial in the cases of older employees by recommending changes of employment to aid in relief of chronic weaknesses, such as heart trouble and rupture. This lengthens the working days of the man, his remuneration is not decreased, and his experience is conserved for the benefit of his employers.

The United States Steel Corporation has a number of these first aid hospitals at its different plants. They consist generally of one- or two-story buildings containing two to eight rooms,

Fig. 1. Standard Buildings—Typical emergency industrial hospital. General view.

among which are a waiting room, consultation room, operating room, redressing room, x-ray room, nurses' room, storage room, and a morgue. Patients are never kept in these small hospitals—they merely pass through them, and so they have no kitchen or pantry. The yard of a steel mill, with the noises of engines and clanging of steel, is not a suitable place to keep patients, and therefore these hospitals are used for first aid only.

Standard Buildings, Inc., has designed a hospital suitable for first aid or for more permanent care of patients. It contemplates building the different parts successively as needed, and repeating any or all of them as the hospital grows. This

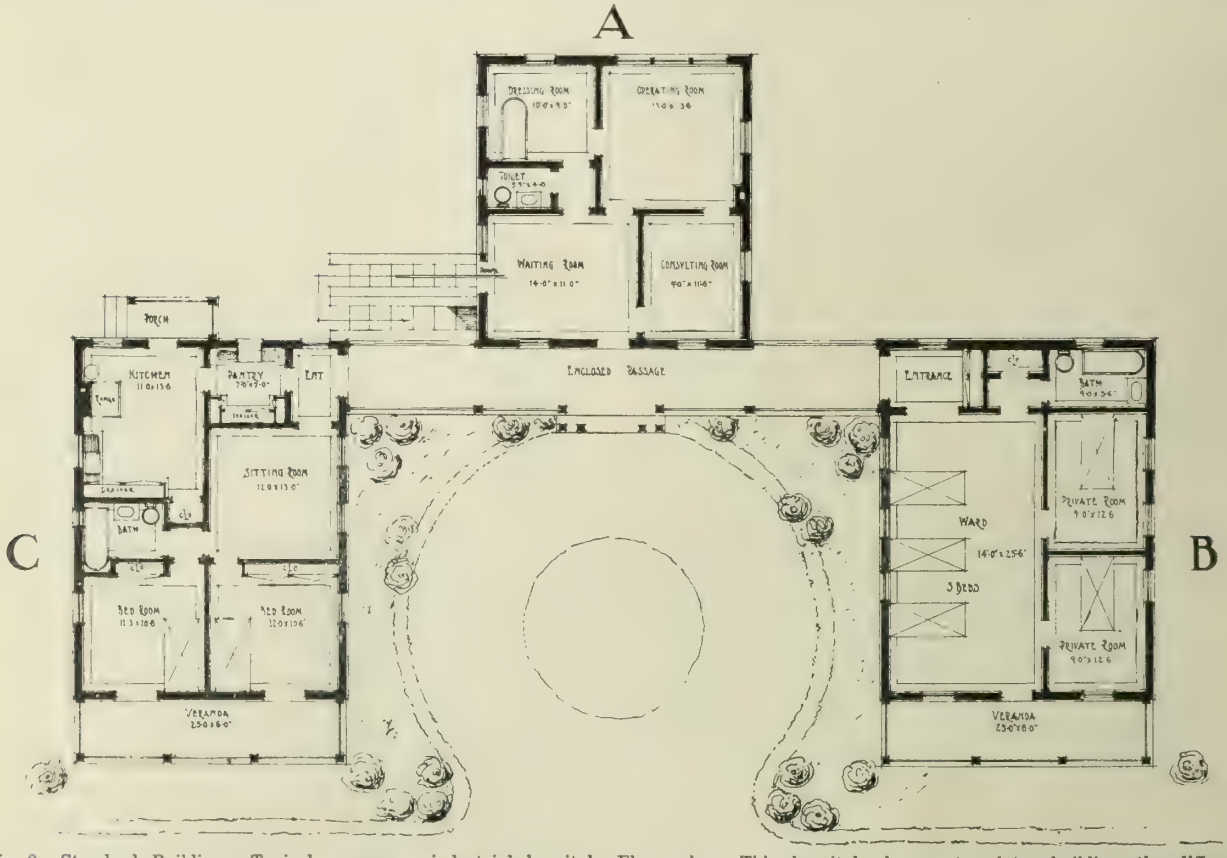

Fig. 2. Standard Buildings—Typical emergency industrial hospital. Floor plan. This hospital plan contemplates building the different parts successively as needed, and repeating any or all of them as the hospital grows. A, consultation and operating building, with morgue in cellar; B, ward building, with separate rooms for those more seriously ill or for living rooms for out-of-bed patients; C, doctors' bed rooms, living room, and hospital kitchen.

Fig. 3. American Sheet and Tin Plate Company's Emergency Hospital, Vandergrift, Pa. Exterior view.
Courtesy of American Iron and Steel Institute, New York.

way of building in sections, which ordinarily would be an increased expense, coupled with other disadvantages, is the reverse in hospital construction, where a number of separate wings, surrounded almost entirely with light and air, are preferable to the same accommodations in a single building. The problem which this design meets is one of inexpensive construction, which will be suitable and durable, and which will have an architectural merit which will enhance rather than detract from its surroundings.

Fig. 4. Norton Company's Emergency Hospital—Dressing room.
Courtesy of American Iron and Steel Institute, New York.

Fig. 5. Norton Company's Emergency Hospital—Laboratory, looking into operating room.
Courtesy of American Iron and Steel Institute, New York.

The material of the walls is of hollow tile blocks in the shape of bricks, but of much larger units and known as "Tex-Face" tile blocks. The difference between these blocks and the familiar type of terra-cotta block is that the familiar types are intended to be covered on the outside with cement stucco or veneered with brick, and covered on the inside with plaster. This materially increases the cost of the building. "Tex-Face" blocks are finished on the exterior with an attractive mat surface similar to face brick, which needs no covering, and they are finished on the inside with a semi-glaze which gives a smooth surface and one that is easily whitewashed. This makes sanitary walls, which are less expensive, are fireproof, and are more durable than plaster. The hollow spaces in the blocks give the best known insulation against the transmission of cold, heat, or moisture.

In the plan illustrated herewith the first section built would be the central one, known as "A," and for first aid work it would be the only one that would be needed. It contains a waiting room, where men reported by their foreman for the sick list wait to receive the examination of the doctor, which is made in the room adjoining. Any slight operation or dressing of wounds is performed in the operating room, which is situated in the back, with large windows, and adjacent to a room where ordinary baths or baths for medical treatment can be given. This bath room can also be used as a robing or redressing room. The toilet and wash room is equally available to the surgeons and patients. From the waiting room an inclined plane leads to the cellar, over which stretchers can be easily rolled. The cellar contains, besides the usual space for heating and storage, a room for the morgue.

Section "B" is the ward section, and is connected with and dependent on section "A." It has no cellar, although there is a concrete floor beneath the wooden floor for sanitary purposes, and it receives heat from a central plant in section "A." The two private rooms may be used as dining room and a sitting room for out-of-bed patients, or as segregation rooms for those patients with the more serious illnesses. They are not intended as private rooms in the sense that they will be reserved for a better class of patients, and for that reason they open directly into the ward, so that the attendant nurse can more readily give attention to their occupants. The bath room is convenient for the use of all, and yet sufficiently retired. The closet is for the storage of linens and hospital supplies.

Section "C" contains the kitchen and pantry for the hospital. Food wagons can be rolled into the pantry and ladened with the requisite dishes and food, and then rolled to the ward. In this wing are also bed rooms, a sitting room, and bath for the resident surgeons or doctors. They use the sitting room also as dining room, where they can be easily served from the pantry. Doors from the bed rooms open directly on a private veranda, and these may also be used as outside doors, so that the resident doctors can enter their apartment without going through any portion of the hospital itself. Where these rooms are not needed for doctors, they can be used for out-of-bed patients.

While there are many elaborations in this plan which would be possible, and, in a case where more expense is warranted, would be desirable, yet in this plan the essentials are provided at a cost which will induce the building of these hospitals even in relatively small plants. It is estimated that section "A" can be built for between $2,000 and $2,500, and the entire group for about $7,000, so that, including the hospital equipment, the work on the ground, planting of shrubs, and building of roads and walks, the entire plant would cost less than $10,000. The interest on this investment at 5 percent and an ample allowance for repairs and a sinking fund that will pay back the original cost in twenty-five years, amounts to $1,000 annually, which, on a pay roll for 5,000 men, would be equivalent to a weekly increase for each man of less than one-half a cent. Operating expenses of the hospital and salaries would increase this to three cents, an amount too small to contrast with the benefits gained from such a hospital operated in any reasonably large plant.

PUBLIC HEALTH SERVICE STARTS MORE WORK.

Investigations of Tuberculosis in Cincinnati, Working Women in Thirteen Cities, Garment Workers in New York, and Metal Industries Under Way.

A special bulletin has just been issued by Surgeon-General Rupert Blue, of the Public Health Service, about active operations in the service. There is a ring of business and activity in the bulletin which is inspiring—short and to the point, as follows:

TUBERCULOSIS AMONG CINCINNATI EMPLOYEES.—Investigations of industries in relation to tuberculosis have been undertaken in Cincinnati, Ohio. These studies include medical examinations of employees engaged in various industries, inspection of morbidity and mortality records, inquiries into sanitary and economic conditions, etc. Three medical officers are now engaged in this work.

WORKING WOMEN IN INDIANA.—At the request of the Indiana Commission on Working Women, a sanitary survey of ninety-six factories has just been completed in that state to determine the sanitary conditions surrounding the employment of women in industrial establishments located in thirteen different cities.

GARMENT WORKERS OF NEW YORK CITY.—A more comprehensive investigation is now in progress in New York City, request for which was made by the Joint Board of Sanitary Control of the Garment Workers' Trade. The purpose of this investigation is to study the sanitary conditions of the industry and determine the physical condition of the persons employed in it. Three medical officers of the service are in charge of this work, the temporary services of the necessary number of female physicians having been obtained.

METALLURGICAL INDUSTRIES.—In cooperation with the United States Bureau of Mines, an officer is now at Pittsburgh studying the sanitation of metallurgical plants in that district.

In cooperation with the same bureau, the studies of sanitation of metal mines and the prevalence of lung diseases among miners, previously undertaken, have been resumed. An officer is now visiting the mining districts of Montana, Colorado, and other Rocky Mountain states for the purpose of collecting data in regard to this subject.

The Wills Mountain Sanitarium at Cumberland, Md., which has been unoccupied for some time, has been reopened.

ITEMS IN HOSPITAL EFFICIENCY—PHYSICAL THERAPY.[1]

Definition—Light, Heat, Cold, Water, Massage, Passive Resistance Exercises—Electro-Therapy Equipment Required—Administrative Technic Most Important.

By JOHN A. HORNSBY, Chicago.

PAPER III.

PHYSICAL therapy may be defined as an attempt to reestablish normal function in a part of the body by artificial stimulation other than drugs, or by mechanical force; and physical therapy is based on the assumption that an organ or a part of the body, once reestablished in its function, will continue its work through the ordinary physiological processes if the disability has been removed.

A number of agents are employed in the practical applications of physical therapy—light, including isolated ether waves, heat, cold, water, electricity, and mechanical energy.

It is no part of the purpose of these papers to delve into medical science with a view to an understanding of the diseases in which physical therapy may be employed with advantage, nor is it intended that these papers shall be treatises on scientific subjects, which in this case would take us far into the physiological action of various forms of physical agents. It is merely proposed to outline, in as elemental a manner as possible, the equipment that would seem to meet the demands of medical science in the general and the special, in the large and in the small hospital.

Only a very small proportion of patients that find their way into the hospital will require the employment of more than one or two, and these the simplest, of physical agents, in the treatment of the diseases from which they suffer; but every hospital should be equipped to respond to the demands of the physician when occasion requires. The best expressions of physical therapy are not always the most elaborate and costly, and sometimes quite as valuable work can be done with improvised apparatus, accompanied by ordinary common sense.

There is an immense amount of nonsense involved in the employment of physical therapy purely for the psychical effect on the patient. A breeze from a static machine, that will raise the patient's hair on end and send cold chills through the body, is likely to impress a nervous, hysterical patient far more than would be justified by any actual service of that sort of treatment; but when we talk about physical therapy we are not thinking in terms of psychology—for such purposes the ingenious physician will find or indicate his own medium.

Let us, therefore, take up, one by one, the physical agents themselves, and discuss briefly their employment, and the equipment needed for the purpose.

LIGHT.

Of all the physical agents, light is probably the least understood, and less accurate information is at hand concerning any physiological effects that it may have. We can hardly class under this head the "X"-ray or "N"-ray, which we might refer to as alkaloids of light. We know how the x-ray is employed, and discussion of x-ray equipment would not be profitable at this time, nor the terms of its employment in the treatment of disease. That would be a large book in itself, and would take us into speculative fields unwarranted by our present purpose, and the same would be true of the Finsen light, the ultra-violet ray, and such ingenious devices as the old-fashioned "blue-glass" treatment. We do not know enough about these forms of therapy, and their efficiency is highly problematical and is now in course of evolution, so that the physicians in a given hospital would be the best judges as to what they would require and the mechanism in each, and such cases would be special to the occasion.

Otherwise it is highly problematical whether light has any specific therapeutic value, although there is no doubt that light, in a broader physiological sense, is one of the most important factors in health, in preventive medicine, and in the cure of disease, but this implies sunlight in the abstract. Sunlight, as we know, is a definite destroyer of microorganisms and is probably the best antiseptic that we have, and claims have been made, if not yet wholly justified, that sunlight has a specific action as, for instance, employed in the so-called heliotherapy of tuberculosis. In this particular treatment, patients, or rather their active foci, are exposed directly to the sun, and, without any question, preliminary reports would seem to justify a belief that sunlight has some specific action in dissipating the microorganisms of the disease, but no equipment is required except sun porches, and a proper adjustment of the bed clothing and wearing apparel of the patient.

Electric light cabinets, no doubt, owe their efficiency to the confined heat of the electric lamps.

[1]This is the third of a series of eight papers discussing the various factors in hospital efficiency. Last month, "Hospital Pathology;" next month, "The Hospital Dietary."

HEAT.

Heat is perhaps the most universally employed therapeutic agent. Heat may be divided into two forms—wet and dry—and each of these may be subdivided again into heat of moderate degree and of high degree. Dry heat is applied as sand bags, sacks of hot salt, and hot bran. Heated flannel cloths are applied to the face for toothache and neuralgia, and no expensive apparatus or equipment is required, although various manufacturers have attempted to devise what they call thermostatic pads for developing various degrees of dry heat. In principle these pads are most excellent, and ought to lend themselves to a wide range of usefulness. Up to this time, however, there has been a question about the control resistance in the thermal pads, and only now are we beginning to develop something that gives promise of better control than that of the past.

Wet heat of low temperature is employed in the form of poultices, fomentations, and wet dressings. These do not require any equipment, and any hospital can meet a physician's requirements for any of them.

Dry heat of high temperature is not employed for any considerable number of purposes, excepting in the form of an actual cautery intended to destroy tissue, and this form of heat comes from the cautery apparatus that belongs to surgical equipment, and it will not be necessary for us to dilate on this. A lesser degree of heat is employed in what we call the baking process—for neuritis, the rheumatic affections, gout, and the like. The apparatus for this purpose has been extremely expensive up to this time. There is about to be placed on the market now a small, portable electric light cabinet that can be immediately adapted to any part of the body, one or both lower extremities, or any part of the trunk, by quick rearrangement of the device. In this form of heat, temperatures can be maintained, and are called for by doctors, up to 400 degrees Fahrenheit, but the heat must be employed in the very driest form or patients will be badly burned. Most of these baking devices are of European make, more especially French and German, and they are heated either by electricity or gas. Each device is fitted for only one joint or one part of the body, and they cost from $75 to $250 each, and the hospital that wanted to keep an equipment that would bake any joints of the upper or lower extremities, or a part of the trunk, abdomen, or thorax, or neck, or back, would require an expenditure of about $1,200. If the new American device noted above proves successful, the same effects can be produced on any part of the body at will for the expenditure of approximately $75. Wet heat of high degree is not employed in therapeutics. In hot water irrigation sometimes a temperature of 140 degrees is called for, and it is this sort of treatment that nurses learn to dread because physicians themselves are poor judges of what a tender surface will bear. Physicians have been known to call for 140 degrees Fahrenheit for water for vaginal irrigation, during which the vagina is kept open by a speculum. It is practically impossible to irrigate a vagina with water at this temperature flowing over a speculum, under which the tissues are so pressed upon that the circulation is impeded, without burning the mucous membrane. Without any question, a vaginal douche can be given with water at 140 degrees if no speculum is employed, because the blood stream, changing constantly, keeps up a flushing of the mucous membrane and prevents burning. One hundred and twenty degrees is as high as an irrigating water ought to be where it flows over a tensely held speculum, and even that temperature has been known to burn a patient.

COLD.

Cold is usually employed for the purpose of contracting the capillaries. This, of course, is apart from the use of solidified air or carbon dioxid frost, which are employed as an accurate and painless method of cauterization. For this purpose a special apparatus is required, which is generally sold by the concerns that handle oxygen and nitrous oxid for anesthesias and carbonic acid gas for ice machine purposes, and for occasional use in connection with hydrotherapeutic apparatus in the Neuheim bath.

Wet cold is employed in the form of ice caps and ice bags, and many physicians require the application of cloths, or absorbent pads wrung out of ice water, for various purposes. Excepting the ice caps and bags, no equipment is required. We are not here discussing the hydrotherapeutic applications of heat and cold, which we will now take up.

WATER.

Hydrotherapy is one of the oldest forms of physical therapy, and has perhaps a broader application than any others. If we were to go into a discussion of hydrotherapy, it would take us too far and too often into speculative fields.

There is a question whether water as a remedial agent has more than one physiological effect—namely, to dilate the capillaries of the skin and surface tissues, thereby relieving congestion of the physiological centers, the blood being drawn away from these and out into the distended capillaries. Perhaps water in some form has the ad-

ditional property of quieting the nerves by lowering the temperature of the body.

Water is employed, moreover, to lower the temperature in a physical way—as, for instance, in typhoid and in pneumonia, and in other high temperatures, such as sunstroke.

It will not profit us to go into the description of the elaborate hydrotherapeutic installation by which the doctors' demands may be satisfied. Let us content ourselves with a consideration of what we want to accomplish.

1. For the tubbing of typhoids and pneumonias to reduce temperature, we may use the fixed bath, in which case the patient is carted to and from his bed and lowered into the tub by two persons.

2. By portable bath wheeled about the hospital. Some hospitals have found the portable bath to work well, especially the larger institutions, and they use it constantly. Primarily the portable bath was intended to operate in connection with the permanent plumbing—a mixing valve faucet above to pour properly tempered water into the tub, and a rubber hose connection at the bottom of the tub to let out the used water. A few hospitals have been fitted with rooms in their architecture that will permit this sort of use of the portable tub, but it just happens that it is never convenient to have the patient and the tub at the point of one of these plumbing connections, and so, in even those hospitals where the portable tub has become a part of the standard technic, buckets are used to fill the tub and other buckets to take away the used water, so that the portable tub is an inconvenient method of applying the bath.

The other form of hydrotherapy for lowering the temperature is by wet sheets or frequently changed cold packs. These methods of employment do not require apparatus—only the proper administrative technic.

Douches, alternate hot and cold, or prolonged hot, or prolonged cold, are used for the purpose of bringing about the dilatation of the surface capillaries for the purpose of withdrawing blood from the congested centers. This practice involves a control table and mixing chambers, with a shower crown and needle spray rosettes. Such apparatus is to be had of all the plumbing houses, and need not be described.

Still another employment of hydrotherapy is solely for its psychical or mental effect. In these cases the doctor may prescribe more elaborate technic for the purpose of impressing the patient with what is being done for him. But such applications are matters for administrative improvising, and do not call for elaborate fixtures or equipment.

MASSAGE.

The purpose of massage is to stimulate a part of the body by manipulation of the hands. This effect may be brought about either in the skin or muscles of the trunk and extremities, or in the abdominal organs, intestines, stomach, liver, and spleen, by careful manipulation. The purpose is to start the blood stream and set it in motion, so that in the extremities or in the muscles of the body whatever waste products there are lying dormant may be taken up in the blood stream and carried away, and the constant flow of arterialized blood through the parts will excite a torpid metabolism and stimulate natural function.

The manner of applying massage will depend very much on the condition of the patient, the part involved, and the diagnosis of the disease, all these factors giving rise to special technic in manipulation.

PASSIVE RESISTANCE EXERCISES.

There are many heart cases, especially old persons, that will not admit of voluntary or any sort of violent exercise. For these cases Dr. Schott has prescribed passive resistance exercises, and Dr. Oertel has modified these by what he calls "walking exercises." In the administration of this kind of therapy the operator moves various members of the body without voluntary action on the part of the patient—in the beginning the patient need have no part whatever except to relax. A little later he is asked to resist the movements of the operator in the manipulation of the extremities, and by easy stages the patient progresses until he can take voluntary exercises. No apparatus is required in any of these exercises until the patient begins to take voluntary exercise, and for this stage elaborate equipment has been devised at different times by different physicians and manufacturers. The intention in most of this elaborate apparatus is to find something that will be comfortable and agreeable for the patient, and that will move the parts of his body and stimulate the various functional organs without discomfort and distress to him. Under this head may be classed the so-called "Zander apparatus" and the various mechanisms to be found in gymnasiums. This apparatus may be simple or elaborate, as the institution may desire.

ELECTROTHERAPY.

Electricity is employed in therapeutics in several ways.

1. It may be used in the shape of the electrocautery.

2. In the form of electrolysis, expressed in an infinitely small quantity of direct current electricity continuously applied.

3. As an expression of cataphoresis—a direct current of small quantity, employed to bring about what we know otherwise as osmosis.

4. As a direct stimulus to nerve ends, by which the movement of the muscles is effected. This form is used for the treatment of paralysis of various sorts, and it is intended in its use, by the very intensity of the energy applied, to create artificially a function in a muscle over which the patient himself has no control.

For the employment of electricity in any form and to any extent that may be called for, only the ordinary medical battery is needed, and the absolute necessities in such a battery are that it shall be designed to give off either a direct current or an alternating current, and that there shall be measuring apparatus in the circuit that will accurately measure the quantity and pressure; that is, the amperes and volts of the current used in the "dosage." A simple form of this battery can be bought for $20, and the best form for about $75 or $80.

ROUTINE DISINFECTION OF RAILROAD COACHES.

Southern Railroad Company Does the Work in a Practical Way—Example for Others to Follow.

There is a vast difference between the ideal or technically correct way of disinfecting things and places and the commercial or practical way; yet large commercial organizations, such as public carriers, usually have highly paid and good men at their disposal, and hence the way they approach the problems is entitled to respect.

The Pullman Company and the Southern Railroad Company have established a technic for disinfecting all classes of passenger coaches at Asheville, N. C. The methods employed at this particular point are of more than ordinary interest because thousands of tuberculosis patients are carried on these cars to and from Asheville and the neighboring mountain resorts.

Past Assistant Surgeon A. D. Foster, of the Public Health Service, has reported on this disinfection in the following formal communication:

Upon arrival in Asheville, as soon as the passengers have disembarked, the car is shunted to a side track in the railroad yards. This track is used exclusively by cars undergoing cleaning and disinfection. On each side of the track is a platform several hundred feet long and built on a level with the floor of the car itself. The ventilators and windows of the car are tightly closed, the berths are taken down, and blankets, pillows, and mattresses are spread out so that the formaldehyde gas may have access to the contents of the car. When this has been done, three galvanized iron pails are placed on the floor of the car, one at each end and one in the center of each car. In each pail are placed 500 c. c. of commercial formalin and 250 grams of potassium permanganate, and the doors of the car are tightly closed. The car remains closed for about twelve hours; the windows and doors are then opened to air the car and to free it from the gas. All carpets, upholstered seats and backs, blankets, and pillows are removed from the car and placed on the platform in the air outside.

Dust is removed from the removable seats, backs, and carpets by means of compressed air, the force of which is so great that it removes practically every particle of dust. The carpets, seats, blankets, etc., are left out on the platform in the sun and air until the interior of the car is cleaned. The hose furnishing compressed air is then taken into the interior of the car and dust is removed from every part of the interior by this means. A force of car cleaners is then put to work with buckets of hot water, and by means of soap and scrubbing brushes the floor of the interior of the car is cleaned, the woodwork being wiped off with damp cloths.

Drinking-water tanks and spittoons are taken out on the platform, where they are cleaned. The water tanks are scrubbed inside and out with hot water and sapolio, rinsed with clean water, and then placed over a steam pipe and sterilized with live steam. Spittoons are first cleaned and then sterilized with steam. A small quantity of formalin solution is also placed in each spittoon.

Once a month the tanks used for storing water which is used for washing purposes in toilet rooms are flushed out and cleansed.

After the interior of the car has been thoroughly cleaned, the water tanks are replaced, and carpets, upholstered seats, pillows, and blankets are put back into the car, after having had a thorough airing in the sun. Owing to the care which necessarily must be used in washing woolen blankets, they are periodically shipped to special laundries experienced in this work, where they are washed and combed.

Besides the fumigation with formaldehyde gas, the toilet rooms are cleansed mechanically by scrubbing the floors with hot water and soap, and an acid solution is used to remove stains from the hoppers in the closets.

If carpets are used in the car, they are removed from the car and carried out on the platform, where the dust is removed by means of compressed air. The upholstered seats are also cleaned by the same means.

One of the places in a railroad car where dirt is frequently lodged is behind the steam pipes which run along both sides of the car. It is found that compressed air under a pressure of from 80 to 100 pounds is the best means of removing the dust which lodges in these places. On and behind these pipes is the place where passengers are apt to expectorate, and, in order to clean these parts of the car thoroughly, a hose delivering live steam is carried into the car, and the pipes and the space between the pipes and sides of the car are thoroughly steamed. After this has been done, the floor of the car and toilet rooms are scrubbed with soap and hot water. The hoppers in the closets are steamed and stains removed with a weak acid solution.

The drinking-water tanks are removed and scrubbed with hot water and sapolio, both inside and outside, and are then steamed, care being taken that the steam hose does not come in contact with the interior of the tank.

A Journal in the Interest of Cripples.

A new monthly journal called *The American Journal of Care for Cripples* has been launched under the editorial charge of Mr. Douglas C. McMurtrie and under the general auspices of the Federation of Associations for Cripples of New York. Vol. I, No. 1, just out, gives promise of full occupancy of a field that should be most praiseworthy and profitable. The list of articles in the first number is an indication of the trend of the journal's general activities. Some of them are: "Industrial Training for Crippled Children About Boston," "The Education of Crippled Children," "The History of the Federation of Associations for Cripples," "Notes on the Early History of Care for Cripples," this last by Mr. Douglas C. McMurtrie himself. The Federation of Associations for Cripples is composed of sixteen organizations in greater New York.

Miss Mabel T. Boardman, chairman of the National Relief Board, announces 4,500 American Red Cross nurses ready for service in the event of war with Mexico. The establishment of field hospitals on the Gulf, Atlantic, and Pacific coasts, in charge of army and navy surgeons, is a feature of the society's program. Surgeon-General Gorgas, United States army, will arrange for a meeting of the board to consider detailed plans for action.

CLEVELAND CITY HOSPITAL REORGANIZES.

Homeopaths to Be Eliminated and Western Reserve University to Take Over Staff Service—Nurses Leaving the State of Ohio Because There Is No Registration Law.

Superintendent Howell Wright and the board of administration of the Cleveland City Hospital have recently completed a reorganization of that institution to bring it abreast of the times; indeed, some of the plans are well in advance of all other teaching hospitals.

The City Hospital, besides being an institution for the care of the city's poor, is a teaching hospital affiliated with the medical school of Western Reserve University, and one of the problems was to create a competent medical staff which should at the same time give representation to the homeopathic school of medicine as well as to the regular school expressed in the university. This knotty problem was solved by delicately eliminating the homeopaths, which was less difficult in that it was shown by the records that the homeopathic members of the staff had not been attending to the business of the hospital, and that homeopathic interns could not be secured, and, when secured, failed to serve their required time. The staff is divided, as is the recent custom, into "chiefs of departments," "assistant chiefs," and "visiting physicians," the chiefs to be on continuous service.

A significant feature of the announcement of the reorganization is the statement, all too common throughout the country, that there are not enough pupil nurses, and not very much hope that there will be enough. This statement is trite, but the further announcement that pupils are going into other states for their training because the state Legislature has persistently refused to pass a nurses' registration law is something to think about. The announcement also states that it is the aim of the management to institute an eight-hour day for nurses. That is also something to think about.

The Influence of Maternity Hospitals.

Until within the last very few years maternity hospitals were regarded by the public as places to which unfortunate women might resort to have abortions performed, and places in which illegitimacy could be concealed. That is the case no longer, and the realization is coming on us that maternity hospitals have perhaps a wider and more far-reaching influence than any other class of institutions for the care of the sick.

Let us imagine, for a moment, a state of things in which every child that was born could have the highest order of scientific skill to meet him on his introduction into this world. In the first place, the mother would be under skillful surveillance during the whole time of her pregnancy, so that her health and strength could be conserved, not only for her own sake, but for that of her child. The bacteriological conditions in the outlet through which the new-born must pass would have been analyzed, and, if there were manifestations of an infection, such as gonococcus, precautions would be taken so that the child would not be infected at the time of birth. The eyes would be given that immediate attention that science has prescribed and that we now know is preventive in almost all cases if properly employed. If the trained obstetrician were in attendance on every case, any deviation from normal conditions in the child would be at once recognized, imperfections noted, physiological and anatomical defects marked and written into the history, and proper measures could be immediately taken to give the child such attention as would be most likely to offset or overcome or cure the condition.

If every woman during her confinement were given the benefit of proper scientific skill, terrible and costly chronic diseases would be prevented in a class of people to whom we must look for our future citizens. How many women, especially in the stratum of society that has to employ midwives, carry a torn perineum or a lacerated cervix away from their first childbirth? How many of these women suffer ever afterward from subinvolutions, endometritis, which is all but incurable, versions and flexions? How many of them are the victims of displaced abdominal viscera, ptoses, due to want of proper bandaging, and due to too early getting out of bed? It would be impossible to calculate how much of the so-called "race suicide" is due to bad medical service to women in their confinement.

If we could know just exactly how many of the diseases of child life and adult life, and how many of the chronic invalidisms among women, are due to bad obstetrics, and improper handling of women in confinement, the figures would no doubt appall us.

Nearly every country in Europe—indeed, every civilized country on the globe—is beginning to wake up, and to treat this problem with something like the consideration due to it. America, of all the civilized nations, is lagging behind. Our laws concerning the practice of midwifery are lax, where they exist at all, and their enforcement is even worse; and, of the disgraceful conditions in this country, the city of St. Louis, by the recent investigations of the New York Committee for the Prevention of Blindness, and reported in a bulletin reviewed by Dr. Hurd on another page, shows the most disgraceful conditions; 75 percent of the women of St. Louis are attended by ignorant, filthy, and callous midwives.

There are a few very excellent maternity hospitals in this country, and many general hospitals in which there are very excellent maternity departments, presided over by skillful and scientific men and women. There must be more of them. It just happens that this problem is an active and vital one in the city of St. Louis just at this time. In this city is a maternity hospital that is doing a fine service on a small scale, but there are several institutions that are doing makeshift obstetrical work. Why can it not be brought about that the people of this city will rally around this one maternity hospital, become interested in its welfare, back up the ambitions and aims and ideals of that fine group of women and those able members of the medical profession who are trying the best they know how, with their limited means, to give their city an adequate service to the most helpless and dependent and important class of its citizens?

Probably the largest and best equipped hospital in the world for the study and treatment of cancer will be established in New York as a result of arrangements recently made, which will insure cooperation between the General Memorial Hospital and Cornell University Medical College. Already more than $1,000,000 exclusive of the value of the buildings, is at the disposal of the institutions for research purposes. Dr. James Douglas, copper millionaire, in addition to contributing a large sum to the fund, has turned over to the hospital a half interest in the radium mines developed in Colorado by himself and Dr. Howard A. Kelly, of Baltimore. Those active in the movement assert that the associated institutions will have access to the largest supply of radium available at any one place in the world.

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Contributors, subscribers, and readers will find important information on advertising page 26.

The Human Side of Florence Nightingale.

The recent elaborate and interesting biography of Florence Nightingale by Sir Edward Cook is worthy of great praise because it brings into public view a phase of her character which had been neglected by previous biographers. Notwithstanding her great powers and remarkable achievements, she was, after all, a human being, as we have always suspected, and had many of the characteristics of persons of ordinary clay. She was impatient of delay when she wished to have any duty performed, and had no charity for unsystematic workers, garrulous sentimentalists, or persistent and inconsequential bores. She was frankly annoyed by men who obstructed the car of progress by their excessive devotion to the good old ways of their grandfathers, and did not hesitate to express her disgust with them. She criticised mercilessly the women who assisted her when they failed to apply the teaching of common sense to their undertakings. When a lady at one time wrote that she loved and honored her, and looked forward to seeing her, she instructed an uncle who guarded her correspondence to "please choke off this woman and tell her that I shall never be well enough to see her either here or hereafter." To the secretary of a sanitary association she instructed the same relative to write, "I will give twenty-one shillings for Mrs. S.'s sake, provided that they do not send me any more of their stupid books, and don't let this unbusinesslike woman write any more of these unbusinesslike letters." Upon the letter of another woman which had grievously afflicted her she indorsed, "Choke her off; my private belief is that she merely wants a chance of getting married."

On a very rambling letter from a would-be nurse she writes, "The curious thing is that she does not seem to know whether it is a *parent* or a *child* that she has lost." Concerning a petitioner who sent copies of verses to accompany accounts of his evangelical principles and pecuniary embarrassments, she writes, "This is the third time the man has written. I think it is time you put a stop to him and his poetry." To a very long-winded appeal from a lady who claimed "the thrilling honor of Miss Nightingale's sympathy," she appended the indorsement, "I believe all this, though I don't know the woman from Adam. Send her two pounds for me, at the same time giving her a hint to look at 'Bleak House,'" doubtless with the hope that she might profit by the character of Mrs. Jelleby and Borrioboola-Gha. To a pious lady who had sent her a tract the following message was dictated, "Please answer this fool, but don't give her my address."

It is refreshing to feel that she had the satisfaction of expressing her mind so tartly on occasion with the absolute certainty that her fond and soft-hearted uncle would transmute these biting messages into soothing words and honeyed phrases. We are assured that he was "an old parliamentary hand" and wrote charming letters.

HENRY M. HURD.

The Woman's Auxiliary Board.

In another part of this number of THE MODERN HOSPITAL will be found a paper by Mrs. D. W. Graham, president of the Woman's Auxiliary Board of the Presbyterian Hospital, Chicago. Mrs. Graham was persuaded to write this paper because it is well known to all who are in touch with hospital activities in Chicago that the board of which she is president has done wonderful work in many directions, and has won for itself a place quite as important, if along different lines, as that of the board of managers of the institution.

Too often women's auxiliary boards are regarded with something akin to horror by the trustees and administrative officers of hospitals, and only too often is this feeling justified by a meddlesomeness on the part of the members that carries them into conflict with those who are primarily responsible for the good order and discipline of the institution. Too often the women, in their

zeal to be useful, are disposed to interfere in details, to supervise the linen rooms, fuss with the kitchen service, and sometimes even go so far as to give orders to the help about the maid and janitor service. Of course no hospital can maintain discipline where this is done.

But we believe that there is a large and very important place for a properly conducted woman's board; indeed we do not see how a hospital can achieve its highest usefulness in the absence of a properly organized group of women who can do "team work" with the other agencies of administration, because, after all, a hospital is a place in which to care for and cure sick people, and the very spirit of the place demands the quick and lively sympathy, the tender, gentle, delicate touch, the wonderful intuition to read a sufferer's longings, that only a woman has.

Mrs. Graham has dwelt lightly on this last high office of her board; she has barely hinted at the personal service that she and her associates are giving. But her story is an inspiring one, and valuable, even if it had no other purpose than to point out the things that a woman's board is not created to do.

Operating Room Rules.

In other pages of this number will be found a paper by Miss Felter, head operating room nurse in the Royal Victoria Hospital, Montreal, on the operating room technic in that institution. In nearly every hospital that pretends to do proper surgery there are definite rules for everything, and every once in a while these rules are revised to conform to new necessities, or to accommodate the surgeons in their constantly changing methods. It just happens that the Royal Victoria Hospital has recently "cleaned house" in the matter of operating room technic, and has prepared rules governing everybody and everything, and Miss Felter has given us these rules through Mr. Webster, superintendent of the hospital.

Not all of us will agree with the Royal Victoria in all respects, as, for instance, about the "home" preparation of catgut. Some of us think catgut is too serious a necessity in good surgery to be subject, in its preparation, to the unreliability of undergraduate nurses, to the likelihood of some little step or some little part of the material being not just right. Temperature control is difficult, and thermostatic devices are often out of order. If our hospital people could see the elaborate, complicated, and highly technical devices employed in catgut preparation by those who make it a business, and could see some of their highly developed experimental work, to determine the success of their methods, and, above all, if they could see some of the septic effects of imperfect sterilization in the animal work that these concerns do, they would not be so entirely satisfied with "home" sterilization. However, Miss Felter and the surgeons of the Royal Victoria have prepared a splendid set of rules, and our operating room nurses and the surgeons who are deeply interested in the administrative technic of their institutions will find in them much of value and many hints, not the least of which is the necessity to occasionally take stock and bring things down to date in the form of printed rules.

Fire Protection in Hospitals.

In the May number of THE MODERN HOSPITAL was a paper by Mr. Hejda, chief inspector of fire protection in the city of Chicago, pointing out some of the necessities for fire protection in hospitals, and giving some rules of conduct for administrative officers whose duty it is to surround their patients with every safeguard against fire.

We feel that we cannot dwell too strongly on this matter. Most new hospitals are "fireproof," but the term is at best a relative one; there is no "fireproof" construction against ignition of furnishings, draperies, and accumulations of junk of various sorts in closets, attics, and basements, and a conflagration in any of these can create a panic among helpless, nervous sick people quite as harmful as fire itself.

Then, there are many hospitals that are neither new nor fireproof, and it is positively criminal for boards of trustees to accept sick people in such institutions without providing at least the well-known, inexpensive devices prescribed by professional fire fighters like Mr. Hejda, and the proper drills of the hospital family that will make these devices efficient. It is the bounden duty of every hospital board and every superintendent to think about this subject and to take the proper precautions against a tragedy—and to do it now.

Home for Hospital Employees.

On other pages will be found an illustrated description of a new employees' home for Grace Hospital, Detroit, prepared by Dr. W. L. Babcock, superintendent of the hospital. Dr. Babcock was asked particularly to go into the question of why the hospital decided to inaugurate an employees' home, and to discuss what he considered the deciding factors in the case.

The paper goes into the economic, the social, and the sociological problems, and to my mind develops abundant reasons why every hospital

should house, feed, and entertain all its employees and exercise constant discipline over them.

This question of the management of employees grows more and more insistent as hospital administration assumes more and more definite form under the analytical lens of our highly developed business era, and hospital administrators will do well to study Dr. Babcock's paper.

JOHN A. HORNSBY.

Index to Volumes I and II of The Modern Hospital.

It was deemed advisable by the editors to begin the volumes of THE MODERN HOSPITAL in January and July, except in the case of volume I, which included the numbers issued in 1913, September to December, inclusive.

As was announced in an editorial, page 247 of the December issue, it was thought best to print the index of articles for volume I with the index for volume II, which is presented with this issue. This index includes the authors and subjects, with enough cross references to facilitate its use.

Our June Cover Design.

Our cover design for this month is an illustration of the new Robert W. Long Hospital at Indianapolis, Ind. This hospital, the erection of which was made possible by the philanthropic impulses of Dr. and Mrs. Robert W. Long, was presented, fully equipped, to the state of Indiana as the hospital of Indiana University, and is to be maintained by the state. In this instance the medical problem was first outlined, and then the construction of the building was arranged to meet the requirements determined by the solution of the medical phase of the project.

In a report recently issued by the superintendent of Pennsylvania Hospital, "Old Blockley," Philadelphia, attention is called to a large decrease in the number of applicants for admission to the nurses' training school of the hospital. While the regular quota is enrolled, it is stated that it is gradually becoming difficult to secure the most desirable applicants.

Among important and conspicuous events in the social life of Washington, are its charitable entertainments. The First Lady of the Land is prominently identified with such worthy enterprises. Mrs. Wilson not only consents to the use of her name, but attends meetings of organizations engaged in betterment of social and sanitary conditions among the poor. A bridge and five hundred party at the Powhatan for the benefit of Columbia Hospital and a performance at the Belasco Theater were among such entertainments recently. The latter was for the benefit of patients of the Public Health and Marine Hospital Service Sanatorium at Fort Stanton, N. M. The Government appropriation provides only quarters and medical attention at this tuberculosis hospital. The object is to secure funds to help many of these unfortunates to communicate with relations and friends at home, and provide comforts for the sufferers.

COMING MEETING OF THE HOSPITAL SECTION OF THE AMERICAN MEDICAL ASSOCIATION.

Program for the Atlantic City Meeting—"Communicable Diseases and Their Care," "Physical Therapy," "Air Problems in Hospitals," and a Symposium on "Surgery in the Hospital."

It was decided in this year's program of the Hospital Section of the American Medical Association to get down to some specific details of hospital activities—subjects in which the hospital people are deeply interested and vitally concerned.

TUESDAY—COMMUNICABLE DISEASES.

The first day's session of the convention will be opened by Chairman L. B. Baldwin, of Minneapolis, at the Marlborough-Blenheim Hotel on Tuesday, June 23, at 2 p. m. After the reading of the chairman's address, the symposium on communicable diseases will be opened with a paper by Dr. Robert J. Wilson, who has charge of the communicable disease hospitals for the city of New York, the title of whose paper is "The Care of Communicable Diseases in General Hospitals."

Dr. Wilson has had long and broad experience in New York, where the various private hospitals, as well as those that belong to and are operated by the city, have undertaken to care for the tremendous number of communicable diseases that constantly prevail in that great city. The hospital problem, as it is affected by the communicable diseases, is perhaps more insistent in New York City than in any other place in the world by reason of the great foreign population and the crowded poor sections of the city. For years there has been an attempt made on the part of the municipal authorities to segregate the communicable diseases in hospitals provided for that purpose; and, on the other hand, there has been the greatest possible cooperation with the city on the part of the private hospitals to bring this end about, because the private hospitals have been more than anxious to get rid of this extremely perplexing class of patients. The very urgency of these cases, however, has made the problem an extremely difficult one. Dr. Wilson has been in the thick of it, and his paper will undoubtedly go far toward clarifying some things with which the hospitals throughout the country are being constantly vexed.

The second paper on the program will be "The Prevention of Communicable Diseases in General Hospitals," by Dr. D. L. Richardson, superintendent of the City Hospital of Providence, R. I. Every hospital administrator, staff member, and trustee in this country knows about Dr. Richardson's work in the Providence City Hospital as organized and conducted under a plan devised by Dr. Chapin, health commissioner of Providence, and himself. Dr. Richardson's institution is a special structure created for the care of the communicable diseases only. There have been two ways of meeting the communicable disease problem in general hospitals: first, by creating possibilities of segregation in the architecture of the building, so that patients can be kept physically apart in separate units, each disease by itself, under the care of people who are isolated from those in care of the other diseases; the second method is to command the segregation of the communicable diseases under a definite technic of administration without reference to the architecture; that is, the people—doctors, interns, nurses, orderlies, maids, and janitors—maintain rules of asepsis and cleanliness and protection that will permit them to visit anywhere in the institution, to take care of patients suffering from any

disease, by merely keeping clean and wearing proper garments and gloves. The Providence hospital has become a noted institution for its care of the communicable diseases under this second method of administration. Dr. Richardson realizes, of course, that a hospital with a large mixed staff or of the so-called "open-door" staff organization, with rotating interns and nurses, and with a low type of constantly changing janitors and maids, could not possibly employ the method in use in his institution, since intelligence, skill, and technic are the very primary factors necessary in its employment. This symposium will be open to discussion, and among those who will discuss it are Gen. W. C. Rucker, assistant surgeon-general of the United States Public Health Service, whose discussion will take up the topic of communicable diseases as a nation-wide public health problem; Dr. F. A. Washburn, administrator of the Massachusetts General Hospital, whose broad experience in this field ought to make his talk extremely interesting, and others qualified to speak on the subject.

WEDNESDAY—PHYSICAL THERAPY.

The meeting of the Hospital Section on Wednesday will be devoted to a symposium on "Physical Therapy in the Modern Hospital." The papers will be as follows:

"Physical Therapy in Its Relation to the Hospital Patient From the Viewpoint of Internist," Dr. Walter L. Bierring, Des Moines, Ia.

"Six Years' Experiences in the Medico-mechanical Department of the Massachusetts General Hospital," Dr. C. Herman Bucholz, of Boston.

"Applied Physical Therapy," Mr. Peter J. Peel, of Chicago, who appears on the program by special invitation.

The discussion of this part of the subject will be opened by Dr. J. B. Murphy, of Chicago.

It is not very many years ago since almost the entire stock in trade of the medical man was drugs. Of course, there were plasters and poultices, but even these were not always intelligently or scientifically employed, and almost the whole reliance of the physician was on drugs. This condition has so radically changed in the past few years that the drug department in hospitals has dwindled and the other departments, such as the hydrotherapeutic, the x-ray, and the dietetic department have grown amazingly. It will undoubtedly be the purpose of Dr. Bierring's paper to discuss the uses of physical therapy—that is, baths, douches, packs, mechanical exercises, and those other agencies that are used in the treatment of such diseases, for instance, as diabetes and other kidney troubles, displacements and torpidity and sluggishness of the various functional organs of the abdomen.

Dr. Bucholz has been at the head of the Zander department of the Massachusetts General Hospital for the past six years. That department has an equipment that cost $30,000, and is made up of vibratory apparatus and mechanical appliances for the movement of various parts of the body and for the treatment of an infinite number of diseases and abnormal conditions. It is employed by the medical staff in the treatment of many diseases, by the surgeons for the correction of all sorts of abnormal conditions, and more especially to restore function in muscles and nerves following fractures and injuries. Dr. Bucholz's paper should be one of the most interesting that this country has had in many a day.

Mr. Peel is a physical therapist of Chicago, whose business it is to work in close touch with and under the direction of members of the medical profession in the employment of the various agencies of physical therapy in every imaginable diseased condition. Theoretically a physician may determine that physical therapy in some form will be of immense benefit to certain classes of patients. Mr. Peel's paper is intended to tell just what is being done every day with these cases, giving end results.

Of course, we know that any discussion by Dr. John B. Murphy would be illuminating and profitable, but in this particular direction Dr. Murphy's experience has been broad, and his opinions have been thoroughly focused along certain lines. He knows exactly how far he can depend on physical therapy in the after-treatment of surgical diseases and surgical operations. The secretary of the Section on Hospitals was greatly elated to be able to have Dr. Murphy as a participant in this symposium.

THURSDAY MORNING—AIR PROBLEMS.

The morning session of the last day's meeting will first take up the election of officers for the coming year. Following the election will be the symposium on "Air Problems in Hospitals." The papers will be as follows:

"Tests of Ventilating Plants," Prof. F. H. Bass, chief sanitary engineer, Minnesota State Board of Health.

"The Importance of Studying the Actual Condition of Hospital Air," Prof. C. E. A. Winslow, curator of public health, American Museum of Natural History, New York; chairman of the New York State Commission on Ventilation.

"Hospital Experiments With Air," Dr. Winford H. Smith, superintendent of Johns Hopkins Hospital, Baltimore.

"Possibilities of Mechanical Ventilation," Mr. Arthur K. Ohmes, consulting engineer of New York City.

"Comparisons of Old and New Hospitals," Mr. T. J. van der Bent, of the architectural firm of McKim, Mead & White, New York City.

The value and importance of this subject need not be discussed. It will be noted that the men whose names appear on the program in this symposium are none of them members of the medical profession, excepting Dr. Smith, and this symposium has been organized as a part of a program which is intended to carry on the work of studying air problems in the form of a mixed national commission. Already some meetings have been held in this connection, and it is proposed during the Atlantic City meeting to create a permanent organization of men capable of going into a scientific study of air problems for hospitals, sanatoriums, and living houses that will bring some definite scientific results. This symposium is intended only by way of introducing the subject and for the purpose of really presenting the problem in its various aspects.

When the commission is organized on a permanent basis at the Atlantic City meeting, it is intended to add to its membership members of the medical profession and other hospital administrators, besides Dr. Smith, who will have sufficient interest and the technical training necessary to the scientific study.

THURSDAY AFTERNOON—SURGICAL SERVICE.

The last session of the Hospital Section will be held on Thursday afternoon, and it will take the form of a joint session with the Section on Surgery in a symposium on "Surgical Service in the Hospital." The program for this symposium is as follows:

"The Standardization of the Surgeon," Prof. J. M. T. Finney, professor of clinical surgery in Johns Hopkins University, Baltimore.

"Hospital Preparation for Successful Surgery," Dr. Thos. A. Shallow, chief resident physician of Jefferson Hospital, Philadelphia.

"Standardization of the Surgical Clinic," Mr. F. D. Gilbreth, efficiency engineer, New York City, by invitation.

"The Surgical Service in Hospitals," Dr. H. O. Collins, superintendent of the Minneapolis City Hospital.

"Principles of Clinical Organization," Dr. Henry S. Plummer, Rochester, Minn.

The participants in the discussion of these papers will be Dr. L. B. Baldwin, University Hospital, Minneapolis, and chairman of the Hospital Section; Dr. F. A. Washburn, member of the House of Delegates representing the Hospital Section, and administrator of the Massachusetts General Hospital; Dr. Robt. L. Dickinson, Brooklyn, N. Y.; Dr. J. E. Moore, professor of surgery in the medical school of the University of Minnesota.

There are those in the medical profession and among hospital administrators who are of the opinion that surgery has grown so rapidly as a part of hospital practice that it has become burdensome and too elaborate for consistent every-day use; there are those who feel that "asepsis" has become a fetish to the point where immense sums of money are being wasted in the creation of conditions that are unnecessary; there are those who believe that some things done in the name of aseptic surgery are worthless, as, for instance, certain technic incidental to the destruction of various microorganisms.

This symposium in the Hospital Section brings together some of the ablest surgeons of this country and some of the ablest hospital administrators, and it is intended to "thresh out" many problems that have been agitating the minds of both physicians and hospital administrators, and it is to be hoped that it will bring us some new viewpoints, if indeed it does not bring about the creation of an organization of medical men, pathologists, bacteriologists, surgeons, and hospital administrators who can make a thorough study of some of the things that we are doing, in connection with our surgical procedures today, to determine whether they are necessary and right.

Silk Gloves for X-Ray Work.

Silk gloves lined with lead are being made to protect the hands of x-ray operators. Lead-painted gloves and lead-plated gloves have been employed heretofore, but they were heavy, clumsy, and unwieldly. The new glove is of French design and manufacture, and seems to have been tested for resistance to the x-ray. If it does the work for which it is intended, it will be a boon to operators, though its use would have been far more valuable a few years ago than now, because with the higher penetrability with the more powerful tubes, and the marvelous quickness of action in making plates, the great danger to operators seems to have become far less, if not even negligible. It seems to have been the long continuance of the action, and not the intensity, that did the harm.

The new home of the Newark (N. J.) Private Hospital is now occupied. The building is a handsome four-story and basement brick structure of modified colonial design. It contains eighty-three rooms and accommodations for 53 patients. Every room is an outside room. A feature of the hospital is suites designed to be occupied by families of patients while the patients are under treatment. Meals will be served in these suites. The new building was planned to give the greatest possible service with the greatest possible economy of space, but beauty as well as utility has been taken into consideration.

NEW YORK HOSPITAL INAUGURATES PENSIONS.

Employees Retired for Long Service or Old Age Are Eligible—Hospital Expected to Benefit by Better Class of Service.

The Society of the New York Hospital has just created and set in motion a comprehensive pension system, and is the first private hospital in this country to take such action. Under the resolution of the Board of Governors, creating the system, the employees of the hospital are divided into two classes: 1, the superintendent of the hospital proper, the medical superintendent of Bloomingdale, the secretary and assistant secretary, the assistant treasurer, and all persons regularly employed in the accounting departments; 2, all other employees of the institutions under the control of the Board of Governors. Pensions will vary in amounts from $15 up to $125 per month, based on the average salary for the preceding five years.

From 55 to 65 years are the ages between which employees may be retired, either at their own request or on the initiative of the board, the lower age to carry with it the longer continuous service. For instance, an employee 65 years of age who has served for fifteen years is eligible, but one who is only 55 must have served twenty-five years or longer. Employees retired on pensions may engage in any other occupation which is not prejudicial to the interests of the hospital.

This pension system is to be under the active charge of a committee of three members of the board, but any employee may appeal to the full board, which is the final resort in all cases. The employees do not contribute toward the fund in any way, all the expense being borne by the Board of Governors, and the board announces that it expects the hospitals under its jurisdiction to profit by attracting a better class of employees and by keeping them longer.

The pension system includes the New York Hospital, House of Relief at Hudson and Jay streets, Bloomingdale Hospital for Mental Diseases and Convalescent Cottages at White Plains.

It is claimed for Iola Sanatorium, the Monroe County (N. Y.) tuberculosis hospital, that in the matter of economical operation it ranks second among all such institutions in the United States. The annual report recently issued by superintendent M. E. Leary gives the average cost per patient per day in 1913 as $2,095, including all expenses of the institution. During the year 381 cases were treated and 36 children were enrolled in the open-air school. Crops to the value of $505 were raised on the sanatorium land and $461 worth of eggs came from the hennery. A recent appropriation of $75,000 will be used this year for the erection of an infirmary to accommodate 100 patients, and it is hoped that a branch for incipient cases may soon be established near the town of Perinton on a tract of land owned by the county. The proposed site comprises a fertile area, with soil adapted to producing all crops needed for the institution.

A children's ward will be added to the Lynn Hospital at Lynn, Mass., this summer. The building, which will cost about $60,000, will be erected by Henry A. Pevear as a memorial to his wife. It will be of brick, three stories high. A solarium will be in front of the building and will run the entire three floors. On the first floor will be a ward containing 10 beds and a smaller one with 8; also bath rooms, diet kitchen, nurses' duty room, etc. The second floor will contain four wards of 4 beds each and four private wards. The third floor will contain 4 beds and five private wards.

DIRECT SUN RAYS FOR TUBERCULOSIS.

It Is Now Known That the Sun Has a Specific Action on Affected Parts—Description of the Treatment.

In a general way, most people have come to realize what fresh air and sunshine mean for tuberculosis patients, and there is a hazy notion that these elements of nature are indirect and indefinite in their operation, and that their kindly work is done through the inhalation of fresh air filtered through germ-destroying sunshine. Most tuberculosis hospitals nowadays are predicated on the necessity for fresh air and sunshine, but an immense amount of paraphernalia and apparatus have been devised and are in use as adjuncts in the treatment of tuberculosis—all sorts of medication and baths and light effects, and electricity in various forms, and some of the manifestations of physical therapy.

Now it transpires that sunshine has far more than a general effect, and is practically specific in its action, operating directly on the diseased part of the body. Dr. Guy Hinsdale, of Hot Springs, Va., lecturer on climatology in the Medico-Chirurgical College of Philadelphia, writing in the Tuberculosis number of the *Interstate Medical Journal*, of St. Louis, March, 1914, has a most inspiriting article about heliotherapy, or sunlight treatment of tuberculosis, as it is practiced on surgical tuberculosis of children in the mountains of France, Switzerland, and Italy. Since 1857 something very like sun bath treatment has been practiced in the Alps on tuberculous children, when Mme. Duhamel, who cared for scrofulous children at Berck, wheeled them several times a day to the beach adjoining her sanatorium. In those days the children were given sea baths, their open sores were washed with sea water, and they were made to lie in the sun, many of them improving greatly under this treatment.

By easy stages the practice of those early days by a devoted woman, acting merely through one experience after another, has now come to be a definite scientific method of treatment. All along the Mediterranean and on the Adriatic sea, and in various parts of the Alps of southern Europe, are hospitals and sanatoriums where practically the only treatment is sun baths, in which the afflicted children, especially the affected parts of the body, are exposed directly to the rays of the sun. One of these hospitals, situated at Berck Plage, under the control of the general public administration of Paris, and situated about twenty-five miles from Boulogne on the English channel, has just been increased immeasurably in size by the addition of new groups of buildings especially adapted to sun treatment of patients.

Dr. Menard, chief surgeon of the Marine Hospital and director of activities at Berck for the past twenty-two years, has established a definite technic, not only for his treatment of the patients, but for managing the obstreperous little sufferers. The children, and adults as well, are taught to practically live in the open air; the training begins with exposure to the air and afterwards exposure to the sunlight, solar radiation constituting heliotherapy. The patients are not allowed to lie in the sun immediately on their arrival at the sanatorium, but are allowed from three to ten days to become acclimated to the altitude and to be trained for the treatment. On the arrival of the patient at the sanatorium he is put to bed in a room; little by little the ventilators and glass doors are opened, and he is gradually accustomed to contact with the air; this is before he is exposed to the free outside air. The next step is to wheel the patient on his bed to the large sun gallery or outer balconies adjacent to the bedroom, and, beginning with one hour the first day and two hours on the second, and so on, the patient comes into full treatment under the sun-bath method. Temperature records are kept, with the pulse and respiration; the blood and urine are examined, and the general conditions noted. The patient

Fig. 1. Gallery in Dr. Rollier's children's clinic "Le Chalet."

Fig. 2. Five-year-old boy after his arrival at Dr. Rollier's sanatorium at Leysin. He had many bone and skin foci in the region of the right eye; glandular enlargements; tuberculosis of the elbow and of the forearm; had had three previous operations; seven fistulas at the elbow, five on the face; ankylosis of the elbow joint. General condition very bad.

Fig. 3. One year later, complete cure. In place of open wounds, normal scar tissue; healthy and vigorous.

is clothed in linen or white flannel, according to the season; he wears a white hat and is protected from direct sunlight on the face by means of a screen, and wears smoked or yellow glasses.

It seems to make no difference where the disease is located—whether in the hip, the spine, or the cervical glands—the invariable treatment is begun with the feet. These are exposed, at intervals of one hour, five times, and only for a period of five minutes. The next day the legs will be exposed and the same method followed; the third day the thighs as far as the groin for five minutes three or four times. On the fourth day the abdomen is exposed, on the fifth the thorax, when the precaution is taken to cover the heart with a damp cloth. If the condition of the patient permits, the patient's abdomen and next his back are exposed to the sun, increasing the number of exposures to six or eight; finally, on the sixth or seventh day the neck and head are exposed, with careful supervision.

The whole system of heliotherapy aims at acquiring a progressive pigmentation of the skin. This seems to be the underlying basis of the whole matter. It is nearly always proportional to the resistance of the patient, and enables him to bear the sunlight and cold air in a most surprising manner.

Dr. Hinsdale says that one remarkable feature of the higher Alpine resorts, such as Leysin, Davos, and St. Moritz, is the difference in temperature between the shade and sun; although snow may be lying on the ground, the sun temperature to which the patients are exposed may be

Fig. 4. On arrival at Dr. Rollier's sanatorium patient had pulmonary, glandular, and bone tuberculosis (thirty-two foci), and general condition was very bad.

Fig. 5. One year later, complete cure. In place of open wounds, normal scar tissue; healthy and vigorous.

Fig. 6. Children very ill when they arrived at Leysin, restored to health. Skiing.

95° or 100° F. The accompanying illustrations show some of Dr. Rollier's patients at Leysin, the method of treatment, and some of his results.

Heliotherapy is not confined to Europe, however, although we in this country did not begin to appreciate sunbath treatment until very recently. With Dr. Rollier's recent record of 1,000 cures out of 1,200 patients, tuberculosis specialists in this country began to look seriously into that method of treatment. Sea Breeze Hospital at Coney Island, New York, has developed the treatment as a definite part of its routine practice, and now the city of New York has established a new location of a thousand feet of beach front at Rockaway Point, ten miles beyond Coney Island. This plot of ground cost the city $1,250,000. The plans include an arrangement of grounds and buildings which will involve an outlay of $2,500,000, and there will be accommodations for 1,000 patients in eight pavilions. Contracts for two of these pavilions have already been let, and they will be paid for by a fund raised by the New York Association for Improving the Condition of the Poor. The hospital, when completed, will be turned over to the city of New York, and will be conducted as part of Bellevue and Allied Hospitals. This magnificent philanthropy grew out of what was called the "Poor Joe Fund," originally $75,000, and with which a most touching story is told.

New Addition to Holy Cross Hospital of Salt Lake City.

Holy Cross Hospital, Salt Lake City, will erect an addition this year, costing approximately $150,000. B. O. Mecklenberg, the architect, visited a number of the most advanced types of hospitals in the country with the view of incorporating in his plans every desirable feature practicable, and the following description will be of interest:

The foundation of the building is to be of cut brownstone, and the superstructure is to be of concrete, steel, and stone, with red brick facings and gray sandstone and terra-cotta trimmings. Between the new construction and the old building fireproof doors are to be used, while in the interior of the entire structure the most modern fire escapes are to be installed to facilitate removal of patients in case of necessity. The floors are to be of cement, with hardwood covering, and the door and window openings and interior trimmings are to be of quarter-sawed whiteoak.

In the matter of sanitary appliances the last word in progress is to be adopted, including extra large drain pipes, ventilation, vacuum cleaning plant, modern steam heating, a heated screen and glass porch on the north side, two big sun parlors on the south side, tile floors and marble partitions in lavatories and bath rooms, and a new ambulance entrance which will permit of handling patients with the greatest expedition and the least inconvenience or discomfort.

In the electric installations are to be included indirect lighting, reading lights over beds, modern signal system, electric dumb waiters, and electric elevators, with all wiring in conduits.

The entire third floor of one of the wings will be devoted to operating, x-ray, preparation, sterilizing, and recovery rooms, with a laboratory and other accessories, and all are to be of the highest type of sanitary arrangement and furnishing.

In the new basement is to be an assembly room 40x80 feet in dimensions, and especial attention is being paid to the lighting of this, so that it will be rendered as nearly like outer daylight as modern science can make it.

The plumbing is to be of the most modern type, the finishings to be in vitreous china and marble, and the piping system of such ample capacity as to avoid any possible congestion through overtaxing.

It has been formally announced by Dr. Richard H. Harte, director of the Department of Health and Charities, Philadelphia, that a campaign is about to be started with the object of soliciting funds for the erection of a suitable Alice Fisher Memorial home for aged nurses. It will be remembered that Miss Alice Fisher was an eminent English lady who came to this country in 1885 and established the Philadelphia Hospital Training School for Nurses, which has been one of the most noted and most successful training schools in the country. This success has been largely due to the imprint of the one who devoted the best years of her life to the foundation of the training school.

CURRENT HOSPITAL LITERATURE

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Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

Frank B. Martin, Domestic Literature.
Army Medical Museum and Library, Office of the Surgeon-General U. S. Army.

The Clinic for Nervous and Mental Diseases at Königsberg (Die psychiatrische und Nervenklinik zu Königsberg). E. Meyer. Arch. f. Psychiat., Berlin, 1914, LIII, No. 2.

Königsberg was the only German university that did not have a psychiatric clinic. Now the city has erected a hospital for the study of nervous and mental diseases. It consists of a main building and two pavilions, the latter containing each 10 beds. The costs amount to 245,000 marks, or 12,250 marks ($3,000) per bed.

An X-Ray Clinic. A. W. Crane, M. D., Kalamazoo, Mich. American Jour. Roentgenology, March, 1914.

Dr. Crane writes in advocacy of local x-ray clinics. He thinks that an exchange of experiences, the exhibition of good plates and the discussion of their interpretation would do much to educate x-ray operators whose opportunities are limited for observing what others are doing. These clinics, he thinks, might take the direction of actual work on patients in the presence of other workers in the community.

The Zonda Surgical Pavilion (Il padiglione chirurgico Zonda). Ospedale Maggiore, Milano, 1914, II, No. 1.

The Ospedale Maggiore in Milan is so much overcrowded with patients that two benevolent gentlemen, the brothers Zonda, took it on themselves to erect a new surgical pavilion at their own expense. The new building is a three-story structure and is located on the hospital grounds, its front lining Lamarmora street. It has a length of 50 meters. Two wings and a central structure project from the rear frontage. The pavilion contains 120 beds, and the donors expressly stated that at no time it shall be permitted to receive more than 120 patients.

The Drainage Tube in Abdominal Surgery. Joseph E. Adams, M. S. London Lancet, April 25, 1914.

The author discusses his subject from a standpoint that will greatly interest surgical nurses as well as surgeons. There is enough of surgical technic, as it interests assistants to the operator, to warrant reading by anyone who has anything to do with the operation or with the making up of drainage material. Mr. Adams thinks not enough discretion is employed in the use of drainage, and that if there is not a definite area occupied by pus, it will be better not to insert a tube, which may be sufficiently irritant to set up an inflammatory process where there is a fair chance for primary healing.

The Panel Nurse. Brit. Jour. Nursing.

In the April issue the standard of the panel nurse is placed in line with that required of Queen's nurses—the three years' certificate of a good training school in addition to a further six months' special training in sanitation, hygiene, and district nursing. The certificate of the Central Midwives Board is held by many Queen's nurses, and is also a most useful qualification for a panel nurse. If the nursing of the insured sick is to be effective, no lower standard must be permitted. Either in town or country, nurses must be equally qualified for sickness, which is no respecter of persons.

The New Hospital "Piemonte" in Messina (Il nuovo ospedale Piemonte a Messina). Rivista ospedaliera, Roma, 1914, V, No. 2.

After the great earthquake of Messina the Piemontese Central Committee, which rendered invaluable assistance during the great catastrophe, decided to erect a permanent hospital for the poorer people of the unfortunate city. The Government gave the grounds for the new hospital, and the construction was commenced in October, 1910. The hospital is located in the southwestern part of the city. The grounds comprise a rectangle of 21,600 square meters. On all four sides the hospital is bordered by a street. The hospital is built on the pavilion plan and has room for 200 patients. The costs amount to 4,000 francs ($800) per bed.

Workmen's Compensation Laws—A Comprehensive View of This Complicated Subject. Samuel A. Harper, formerly attorney of the Illinois Workmen's Compensation Commission. Buildings and Building Management, May, 1914.

Mr. Harper, at the outset of his paper, summarizes the mechanical progress of our age that has served to so greatly increase the hazard for workingmen. He reviews present compensation laws which are in force in twenty-five states in the Union. He recites the fact that 50 per cent of accidents to workmen are interpreted by the courts to be the fault of employers. He analyzes the laws in the several states in a most interesting manner. The whole paper, which is to be concluded in the June number, will be of very great interest to those who are thinking about social service from the standpoint of employees and improved living conditions for them.

The Sanitation of Comfort Stations. Editorial in the New York Med. Jour., May 2, 1914.

The writer of the editorial suggests, as a preliminary to his argument, that there were an alarming number of typhoid cases in the city of New York during the spring of 1913, "probably the result of contact infection or of food contamination in the home." The writer finds that common towels and common cups are still widely used in the poorer types of hotels and lodging houses, notwithstanding a mandatory sanitary code against such use. He calls attention to the recommendations of the Association for Improving the Condition of the Poor, for the elimination of doors with handles and locks, the provision of soap and water and individual towels for patrons, the supplying of toilet paper and sanitary napkins in the women's stations, to be had by some automatic device; a more thorough soap-and-water cleansing of the comfort station utensils. He thinks, however, that none of these devices will suffice to bring down the morbidity and mortality tables unless their introduction is accompanied, or even preceded, by a greater amount of education of the public.

Possibilities of a Leaky Hot-Water Bag. Emma Gary Wallace. The Forecast, April, 1914.

The writer tells about a score of things that can be done with a hot-water bottle that leaks too badly to be of further service for its original purposes. It can be made into a container for sand, to be used as a hot application in certain highly sensitized nerve conditions, such as toothache, neuralgia, rheumatism, and the like. It can be made into a sponge holder for travelers who are obliged to put their wet sponge away and don't want it to wet things packed with it. A small quantity of the rubber can be cut off to fit over the opening in the kitchen sink to act as an effective stopper. Small pieces can be cut into washers of various kinds for leaky valves.

The Social Worker's Influence in the Community. Geo. B. Underwood, M. D., Gardner, Mass. Boston Med. and Surg. Jour., April 30.

The writer first defines social service and tells what social service is doing in his own community. He cites a number of individual illustrations, and sums up as follows: "The social worker does much to correct the mistaken ideas of the public, who sometimes practically ostracise the tubercular patient. The social worker should strive to accomplish her ends by tact, constant attention, and friendliness, rather than by making her directions compulsory and thereby creating a feeling of antagonism to her work. That the social worker is a most important influence in a community cannot be denied, and that her influence is educational is recognized, for, as Dr. Cabot says, 'the contagion of disease must be opposed by a contagion of intelligence.'"

Food from the Standpoint of Energy. Graham Lusk, M. D. New York Med. Record, April 25.

"Dr. Mendel has spoken about the limitations of the caloric method of computing nutritive values," said Dr. Lusk, "and yet, all in all, it is the best method. Nature, through the device of appetite, usually provides against the use of wrong food. A man who leads a life of sedentary occupation requires 2,500 heat units, or calories, to maintain his body machinery. He needs also water, salts, proteins, and certain newly discovered substances called vitamines." The writer then discusses the caloric values of such food stuffs as milk, beans, bread, sugar, cereals, pancakes, potatoes, cheese, and meats. The writer discusses the recent work of Becker and Hamalainen, in Finland, to show the caloric necessities of people working at different occupations.

The Value of Small Classes. Edwin W. Dwight, M. D. New York Med. Record, May 2, 1914.

This is a paper read by Dr. Dwight before the Association of Local Insurance Medical Directors in Philadelphia last fall, now published for the first time. The writer's paper really developed the question of the largeness or smallness of the groups of classes of cases on which insurance actuaries are accustomed to base their statistics for insurance purposes. He thinks that, while the actuarial office is one of exact science, it is a mistake to assume that a great number of cases in any one group can give a clearer picture than a few well-chosen, carefully analyzed cases in many groups. He thinks a large number of small groups is of far greater value than a single large group, and that much more can be learned by subdividing groups than by combining them. He thinks, moreover, that individual experiences in the analysis of cases are worth more than any collective experience. The writer gives many illustrations of this in his paper.

Domestic Control in Small Hospitals—Cottage Hospital Bookkeeping. Hospital, London.

The April issue describes a system adopted at Lynn Regis, introduced by one of the honorary officers. Form A consists of a record showing inmates in hospital, with weekly sum contributed by each, in which are given patients' names, days of month, total days resident, amount charged weekly, payment, and total column, respectively. In Form B household expenses by the month, tradesmen's books, household books, petty cash, and total are each given spaces. It is poor economy in small hospitals to purchase in bulk to admit of time for weighing and measuring. Store rooms are commonly bad in small institutions. Small quantities are more likely to be used with care by untrained servants, and the matron will be lucky who has not to depend on unskilled labor in a small hospital.

A Treatise on Flooring Materials. W. M. Hooker, C. E. Real Estate Magazine, New York, April.

The writer is obviously a friend to composition floors, and he begins with a description of their composition, but there are some convincing tables of analysis of various floors in respect to their cardinal virtues, measured in percentages. For instance, in his table of "cleanliness and sanitary appearance" he places composition flooring first, with a percentage of 100; Portland cement concrete, second, with a percentage of 90; terrazzo, third, with 90; marble, tile, mosaic, linoleum, in a descending scale, down to 70, with the wood floors low down on the list, with a mark of 35 for maple, 35 for oak, and 32 for white pine. In the table of "quietness" he places cork tile first, with a percentage of 100; rubber tile, second, with 98; linoleum, third, with 96; composition flooring, fourth, with 75, and the wood floors with 60 for white pine, 60 for yellow pine, 50 for maple, and 50 for oak, terrazzo being last, with a percentage of 0.

A Practical Arrangement of the Various Buildings of a Large Hospital (Die zweckmässige Anordnung der einzelnen Gebäude der grossen Krankenhäuser). H. C. Nussbaum. Heilanstalt, Leipsic, 1914, IX, No. 7.

The pavilion system does not represent the ideal of modern hospital construction. Communication between the various pavilions is unsatisfactory. People passing from one building to the other are exposed to the inclemency of the weather. The pavilion system lacks a large, quiet and shady park, and the small gardens between the pavilions cannot supply this want. There is too much noise and dust, which have an unfavorable influence on the patients. To obviate these disadvantages, all the buildings, which may be either one- or two-story, should be placed without interruption all around the hospital grounds. All the wards and sick rooms should open on the park, while the accessory rooms would obtain the light and air from the outer side. Any form of building may be chosen, either pavilions proper or houses of several stories. Each building should have its own entrance, and be separated from its two neighboring buildings by windowless and doorless walls. On the park side there should be a large, airy hall, which begins at the administration building and passes continuously all around the other buildings. Over the hall would be a large terrace, so constructed that the beds and chairs of the patients could be rolled out from the rooms. If the buildings have more than two stories, a terrace might be attached to each story. From this plan it is clear that a square or rectangular piece of ground is the most suitable for such a hospital. On the outer side the buildings would be lined by streets, and the inclosed grounds would form a park.

Insanity Statistics in England and Germany (Zur Irrenstatistik in England und Deutschland). Dr. Alter. Psychiat. Neurol. Wchnschr., Halle a. S., 1913-14, XV, No. 50.

In England there were on January 1, 1913, 170,201 insane persons in a population of around 37,000,000. In Prussia the statistics of December 5, 1910, showed 160,001 insane persons in a population of 40,000,000 inhabitants. In Prussia there were 39.84 insane per 10,000 inhabitants, of whom 22.92 were in hospitals. England had 46.10 insane per 10,000 population, of whom 29.68 were in hospitals. This difference does not appear very great if we consider that in Switzerland, in the cantons of Berne and Zurich, there were in 1902 85 insane in the former and 92 in the latter canton per 10,000 inhabitants. As to sex, there were in England 21.41 male and 24.66 female insane. Prussia had 20.91 men and 18.93 insane women per 10,000 inhabitants. The greater percentage of female insane in England is probably due to the fact that alcoholism is more common among the women in England and that comparatively a greater number of women work in factories.

The Increasing Cost of Hospital Construction (Die Verteuerung der Krankenhäuser). Spiller. Ztschr. f. Krankenanstalten, Leipsic, 1914, X, No. 14.

Of late years the complaint is frequently heard in Germany, that the money is spent too lavishly in the construction of new hospitals, that the districts and communities vie with each other in erecting luxurious and expensive structures, burdening themselves with debts and making heavy demands on the taxpayers. To counteract this tendency in Prussia the Ministry of the Interior has lately addressed a circular to the provincial governors with the request to see that those districts and communities that have not large funds at their disposition abstain from erecting expensive hospitals. At the same time stress is laid on the fact that the reduction of costs should not be made at the expense of hygienic principles and necessary arrangements of the interior of the hospitals; that the expenses should, on the contrary, be reduced by omitting all unnecessary and costly work, which is not an essential part of the hospital.

Elementary Training of Children to Remove Mental Faults and Lessen Mental Deficiency. Francis Warner, M. D. London Lancet, April 18, 1914.

"When a child is brought to the doctor for examination and advice on account of mental faults, backwardness, or deficiency," the writer suggests, "a diagnosis should be made on which a scientific prognosis can be given, and a line of treatment recommended. At the same time such concomitants as naso-pharyngeal obstruction, deafness, errors of refraction, defects of the heart, and other physical defects, should be eliminated as possible causes of brain inaptitude." He thinks it is also highly desirable, before giving an opinion, "to ascertain as much as possible of the child's surroundings, habits, and previous training. The aim in all these cases," he thinks, "should be to treat each normal character of brain action, stage by stage, on a definite plan according to the age of the child and his increasing brain power, while implanting in the teacher's mind a clear idea of useful employment for social and mental life in the future. The work wanted from the teacher of such a child is often difficult and laborious, but interesting, and needs the guidance of the medical man at each stage, with directions as to what should be observed and how to meet whatever contingencies arise. The author describes what he considers proper methods of mental training, including physical exercises.

Nursing in Asylums, with Special Reference to Female Nursing on the Male Side. Miss Thyne, matron of the West House, Royal Edinburgh Asylum. Brit. Jour. Nursing, April 18, 1914.

Miss Thyne is inoculated with the modern idea that very much can be done for mentally disturbed patients by the companionship and comradeship, so to speak, of a nurse who has been thoroughly trained in the elements, ethics, and the social necessities of mental nursing. One of the best things in Miss Thyne's paper, which, by the way, was read at the Scottish Nurses' Conference, Glasgow, February, 1914, was her discussion of nursing of male mental patients by women trained nurses. She realizes that there are certain cases whose form of malady would contraindicate association with women, but she thinks trained nurses, as a rule, have tact enough to minimize the dangers in this particular direction, and she thinks that the association of mentally disturbed men with women will do a vast amount of good by way of refinement and the repression of grossness and crudities that might be given free rein under nursing by male attendants.

The Surgeon as the Autocrat of the Operating Room. J. W. Kennedy, M. D., Philadelphia-New York Med. Jour., April 25.

"When you are engaged as a surgeon to do an operation, the engaging party doesn't ask you who your anesthetist, assistants, or clinical nurses are; he holds you responsible for all, and so he should." This is the text of the author's paper—viz., that the surgeon must assume responsibility for every feature of his operative work, and he must leave nothing to chance and take nothing for granted. He goes a step too far, and proposes, for instance, that it is the bounden duty of the surgeon to personally count the sponges before and after the operation, and the same with gauze packs, towels, and instruments. He tells us that in his own work he never finds it necessary to use more than three gauze sponges and three gauze towels, and that these are the only pieces that are permitted in the abdomen during the operation. The writer thinks that the surgical technic of the operating room has grown too bulky, complex, and intricate, and that the methods of the late Joseph Price, who was the apostle of simplicity, must come into favor.

The Treatment of Cases of Mental Disorder in General Hospitals. Philip Coombs Knapp. Boston Med. and Surg. Jour., April 23.

Dr. Knapp's paper is the story of an attempt, which he declares to have been entirely successful, to care for nervous and disturbed patients in the Boston City Hospital. There were 785 patients during the four years' experimental work told about in the paper. There were apoplexies, alcoholism, hysteria, epilepsy, cerebral syphilis, dementia precox, general paresis, and a number of others. Some of the alcoholics were delirium tremens. As a result of his experience, the writer does not insist on the "no restraint" fetish. He thinks there are certain cases that do need mechanical restraint, and that for these the mechanical restraint is far preferable to depressing drugs. A summary of the writer's beliefs is stated as follows: "Four years' experience has convinced me that, even without a special psychiatric pavilion or psychiatric wards, insane patients can be received and temporarily cared for in the open wards of the general hospital with comparatively little restraint, and that such a procedure is attended with somewhat more trouble, but no great risks."

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Kansas City has established quiet zones for schools and hospitals.

NEW EQUIPMENT

An Inexpensive Air Moistener.

Without any question we are coming upon a time in the administration of hospitals and sanatoriums, and in the architecture of all these buildings, when air problems shall occupy a most prominent place. Of course, we have known always that fresh air was desirable, and in an indifferent sort of way we have talked about dry and moist atmospheres, but there has been a certain vagueness about air conditions that is just now beginning to be clarified and standardized along scientific lines.

This year the Hospital Section of the American Medical Association is to discuss these air problems for hospitals and homes, sanatoriums and hotels, factories in which large numbers of people work, and in underground living conditions, such as mines. These discussions are to be

Fig. 1. Air moistener—The tank attached to the radiator.

participated in by engineers, sanitarians, hygienists, medical men, and hospital administrators, and undoubtedly the discussions will hinge on two factors in indoor air, temperature and relieve humidity, and these factors again must divide themselves into a discussion of mechanical ventilation and the various mechanical devices on which air conditions depend, and the various devices for bringing about natural or window ventilation.

We all recognize that the relative humidity of air has an immense amount to do with its value, not only for sick people, but for those in good health and living in their homes. Already we know that a certain percentage of relative humidity is necessary, and in a general way we know perfectly well that the ordinary methods of temperature control in homes and hospitals, dependent on the heating systems, hinge as much on the relative humidity as they do on the temperature itself, and that the desired temperature depends in its turn on the humidity.

There has recently been made a simple air moistening device, shown in the illustration, which is easily worked, as it hangs on the radiator, and inexpensive, and therefore available for almost any home or hospital. In the use of this device the higher the temperature goes the greater amount of moisture will be evaporated from the tank into

Fig. 2. Air moistener—Filling the tank with water.

the atmosphere, so that rooms which would be unbearably hot if the temperature were dry will give very desirable temperatures if sufficient amount of moisture is released.

This air moistener, made by the Savo Manufacturing Company, 5856 Park avenue, Chicago, is suggested to the hospital people as a direct contribution toward efficiency in a direction that has caused a good deal of trouble in the past.

A New Water Mixing Valve.

The only mechanical difficulty in the way of furnishing water of exact temperatures for the many purposes of a hospital or a hydrotherapeutic department is the question of a mixing chamber for the hot and cold water. All of us have been perplexed over this problem. How many times do we burn a nervous patient in the hydrotherapeutic department, the value of whose treatment depends almost entirely on its quieting effect? How many times are mentally disturbed patients in state hospitals and private sanatoriums burned by failure of the mixing chamber to deliver water at correct temperatures? The jumping up of a temperature in the water to scalding point when a nervous patient has been under treatment has often served to undo all the good that had been done by perhaps weeks of correct hydrotherapeutic application.

We are now beginning to use water at varying temperatures in our hospitals and sanatoriums for more purposes than formerly. We not only have the showers and needle sprays and the alternating hot and cold douches of the hydrotherapeutic department, but we have the continuous baths for cases of burns, pemphigus, and a number of other diseases; we have the continuous baths for mentally disturbed patients, the value of which will depend almost entirely on the use of correct temperatures in water and the absolute unchangeableness in the delivery of the water to the bath at those temperatures; we have the new baby baths for infant departments, and it is an easy thing to burn babies or to chill them, by sudden delivery of too cold water; and nowadays we are beginning to use metal pads to place over various parts of the body, in which the temperature is attained by coils connected to the plumbing.

All these various purposes make it absolutely necessary that we have water of perfectly controlled temperatures. Up to the present time we have not been able to perfect this temperature control. No mixing valve has been available that would not unexpectedly jump up or down in temperature to a harmful degree; for instance, if the mixing chamber were supplied with hot and cold water from the general supply pipes that went on upstairs for distribution at other outlets, a sudden draw-off of the cold water upstairs would reduce the pressure of the cold water at the mixing chamber and allow more hot water to come in, when the temperature would jump up oftentimes sufficiently to burn a patient, or the reverse would be true, and the water would change instantly to so low a temperature that a patient would be chilled. Therefore hospital administrators have been for a long time looking for some mixing device that would give correct temperature in some automatic fashion that could be prearranged.

It seems that now there has been a device of this character perfected in the Leonard thermostatic mixing valve, made by the Leonard-Rooke Company, of Providence, R. I. This valve is shown in the illustration (Fig. 1), and its operation is as follows: The small handle over the figures 80, 90, 100, 110, etc., is lifted and moved along the scale to the exact temperature desired; then the hand valve above is turned to let the water in; the water comes in from below, at the points marked "hot" and "cold," and comes out to the point of distribution from the pipe at the top.

The mechanism is so arranged that when the hot and cold water are delivered to the mixer inside, the thermostatic coils, expand and contract, as the case may be, under the impulse of the temperature in the waters until these coils fix themselves for exactly the temperature indicated on the dial. In case the pressure of the cold water should be lowered at any time, then this thermostatic valve readjusts itself instantly to prevent the ingress of more than sufficient hot water to keep the temperature exactly where it belongs. If at any time the cold water should be entirely shut off in the main pipe, then the thermostatic coil inside would expand, under the impulse of the hot water, until it closed the hot water valve and no water at all could come out.

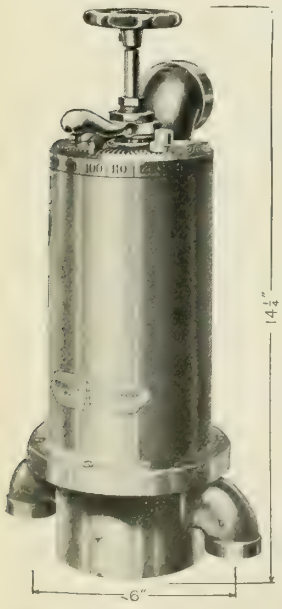


Fig. 1. Water mixing valve—Exterior view.

For the past two years this valve has been in use in a number of hospitals for purposes of trial under the most difficult conditions. Dr. Geo. E. Simpson, Rhode Island State Hospital for the Insane, writes that the valve has worked perfectly in that institution. Mr. Chas. A. Devine, superintendent of public baths of Providence, R. I., says that the valve has done exactly what was claimed for it in the public baths over which he has control. In such a place, for instance, as a hydrotherapeutic department, where there are a number of baths or tubs, these temperature control devices are placed one for each hot and cold water outlet, as shown in Fig. 3.

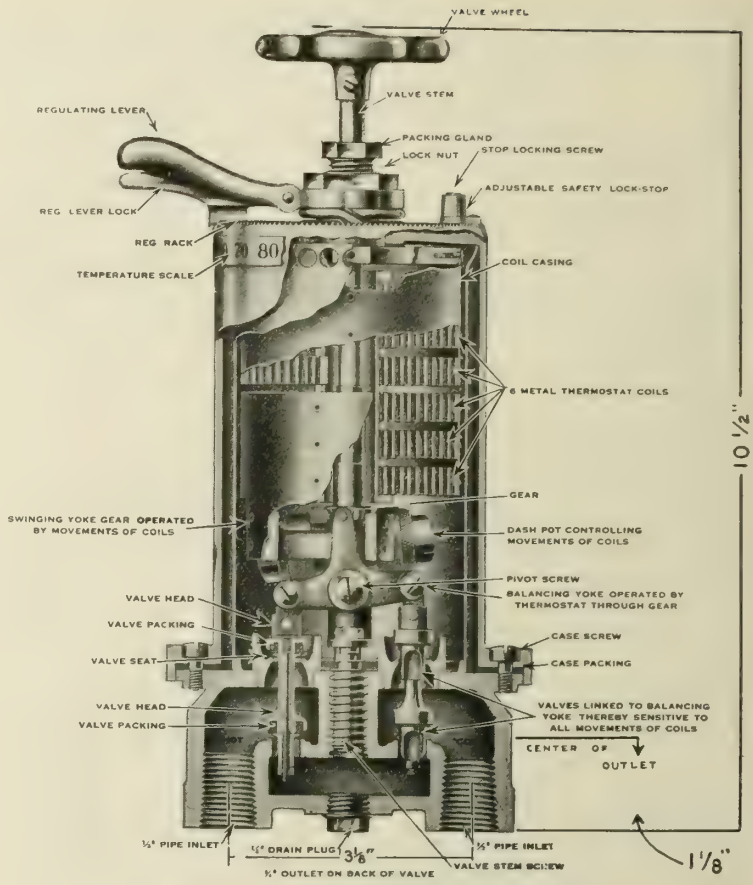


Fig. 2. Water mixing valve—Interior view.

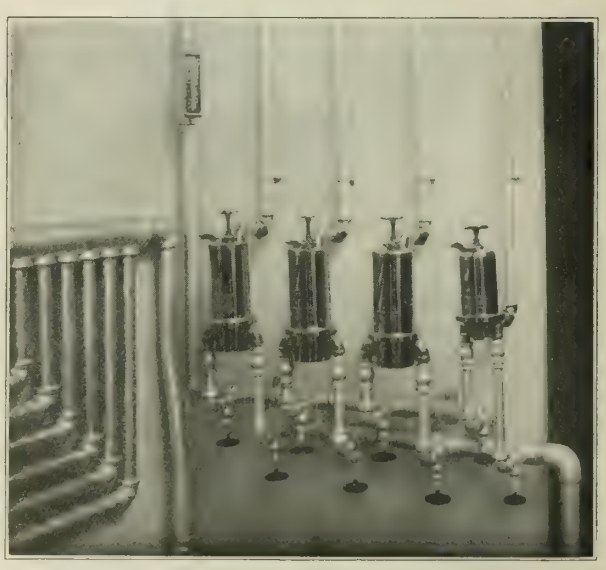


Fig. 3. Arrangement of four valves, one for each bath or tub.

It is a subject of sincere congratulation that we are now possessed of a mixing valve that can give us water at temperatures that can be relied on.

Elapsing Time Recorder.

One of the difficult problems is to settle to the satisfaction of relatives and friends the contention of patients that they had been compelled to wait "hours" for a nurse to answer their call. All of us can recall the wildest statements of patients, and sometimes they tell their troubles so forcefully and with such exquisite detail that we are impelled to a lingering doubt even in the face of a downright denial by a nurse whom we had always believed to be a truthful and conscientious girl; and sometimes nurses do fail to respond promptly.

Elapsing time recorder.

The Holtzer-Cabot Company has designed a clock mechanism, with automatic recorder, that should clear up this problem. The finger of the recorder perforates a strip of paper which travels ahead a certain recorded distance each minute. When a call is sent in, the fact is recorded; when the call is answered, that fact is likewise recorded on the roll, thus fixing the exact time that had elapsed between the call and the answer. The paper roll used is sufficient for fifteen days' operation, when a new roll is inserted. The security guaranteed by this device should make it well worth having.

A New Body Baking Cabinet.

Every day our doctors in the hospitals are calling for baking devices for some part of the body, to be used in such diseases as neuritis, the rheumatisms, and sprains. The number of affections for which these baking devices are demanded covers a wide range and the number is growing greater as the pathology of diseases is better known.

Up to the present time we have been depending on various devices, each one for some particular part of the body, heated by either gas or electricity, the latter by means of a combination of resistance wires. These baking devices have been made and may be purchased for nearly every part of the body; one for the shoulder, another for the elbow, one for the forearm, one for the foot and ankle, another for the knee, and still another for one hip and another for both hips, and still another for parts of the trunk. If one were to buy the full equipment of these devices for all the various parts of the body, we would

Fig. 1. Device set for application of heat to the chest and upper abdomen.

have to pay in the neighborhood of a thousand dollars, and none of these devices has ever been made heretofore whose temperature could be accurately enough controlled up at the high points to be sure that we were not going to

Fig. 2. Device showing the moisture pad in place, with the curtain pulled aside.

burn somebody. To that extent these devices have all been unsatisfactory as well as very costly.

Mr. F. F. Burdick, of Milton, Wis., for years connected prominently with x-ray and electro-therapeutic commercial work, has devised a single cabinet made to fit any and every part of the human body. The illustrations show this device. There are a number of electric lamps in the oval form of cabinet. Any degree of temperature can be had by turning on the desired number of lights from the notched switch. No description of the device is needed, as the illustrations show exactly what it is for and how it is to be used. The curtain is of resistol cloth, water-

proof, and highly insulating for air temperatures. The story of this cabinet in its finished state is soon told, but its evolution has been a long and a most interesting one to those who have been privileged to watch Mr. Burdick and his work from the inception of his idea.

Fig. 3. Device employed for heat bath to feet and legs.

Fortunately, throughout his experimental work Mr. Burdick has had the benefit of the professional training of his wife. Mrs. Burdick herself is a trained nurse, and it was she who first inspired Mr. Burdick with the idea that a

Fig. 4. Device employed to give heat bath to back.

cabinet of this sort was something of which the hospitals were in great need. His leisure hours for the last two years have been expended in its perfection. Without doubt the cabinet will be marketed at once, and the hospitals will have an opportunity to buy it. For the present, those who are interested may write directly to Mr. Burdick at Milton, Wis.

It should be stated that the cost of this device has been one of the serious concerns of Mr. Burdick in his work, and he understands that, in order to make it successful, it must be sold at a price within reach of the hospital people.

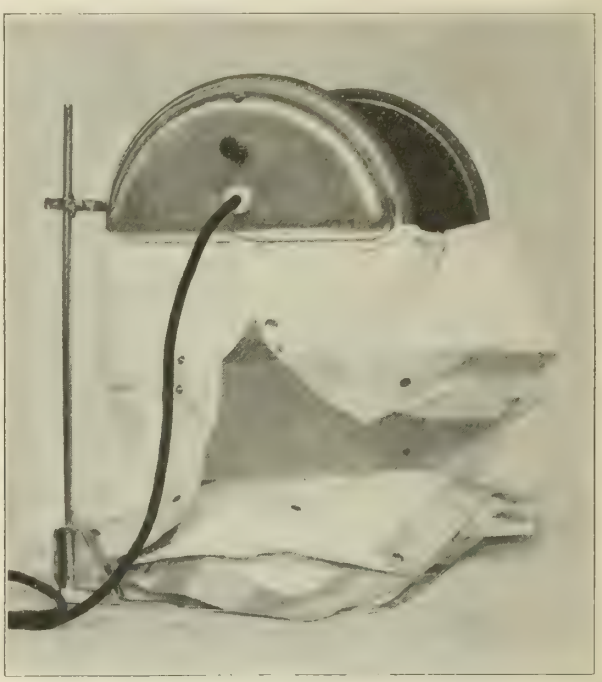


Fig. 5. Device employed as cabinet for part of body, showing moisture pad in place, with curtain drawn aside.

Maternity Hospital Wants Affiliation.

The following announcement has been sent out by the Chicago Lying-in Hospital and Dispensary:

To the Training Schools for Nurses of the Central States:

The Chicago Lying-in Hospital desires to announce that the first of its new buildings to be devoted to obstetrics and gynecologic work will be ready for occupancy in October of this year, and will have a capacity of 21 beds. The main building will be ready a year and a half afterward, and will have a capacity of 150 beds. The dispensary, out-maternity, cares for 2,000 cases annually.

The Lying-in Hospital prefers not to establish its own training school, but wishes to enter into affiliation with recognized general hospitals.

The following courses of obstetric training will be offered in the new hospital:

1. For nurses who have completed eighteen months' service in an accredited general hospital, a course of four months, consisting of (a) 2 months in the hospital, of which (b) 4 weeks is puerperal duty with the mothers and babies, (c) 4 weeks is operating room service, day 2 weeks, night 2 weeks; (d) 1 month varied service, incubator room, isolation pavilion, etc.; (e) 1 month dispensary service, visiting nursing, social service, etc.

2. For nurses who have served 2 years in a hospital for insane or a sanitarium, a course of 6 months, consisting of (a) 1 month laboratory work and preparatory training; (b) 8 weeks puerperal work; (c) 4 weeks operating room; (d) 1 month dispensary service, visiting nursing, social service, etc.; (e) 1 month varied service, isolation pavilion, incubator room, etc.

3. Post-graduate course, as heretofore.

Nurses in all courses attend lectures and demonstrations, class work, amphitheater clinics, etc., as far as possible. A certificate is issued on satisfactory completion of the work.

The management will be glad to enter into correspondence with schools needing obstetric training for the nurses.

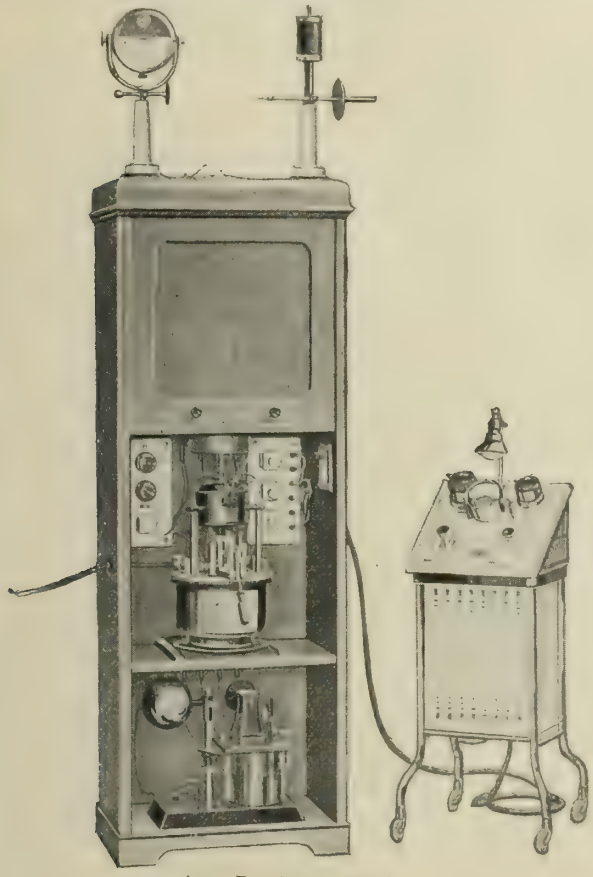
THE CHICAGO LYING-IN HOSPITAL AND DISPENSARY,
515 South Ashland Boulevard, Chicago.

NEW INSTRUMENTS *and* APPLIANCES

Vincenz Mueller, Technical Editor.
Geo. W. Wallerich, Associate Editor.

The Apex Roentgen Apparatus.

The extensive work which is being done in so-called deep Roentgen therapy for the treatment of myoma has called for certain changes in equipment so as to better secure the desired qualities of the x-rays. The method of Professors Gauss and Kroenig, of Freiburg, is now being adopted to a very considerable extent, though it has been found that the ordinary type of induction coil does not produce the best results, largely on account of the form



Apex Roentgen apparatus.

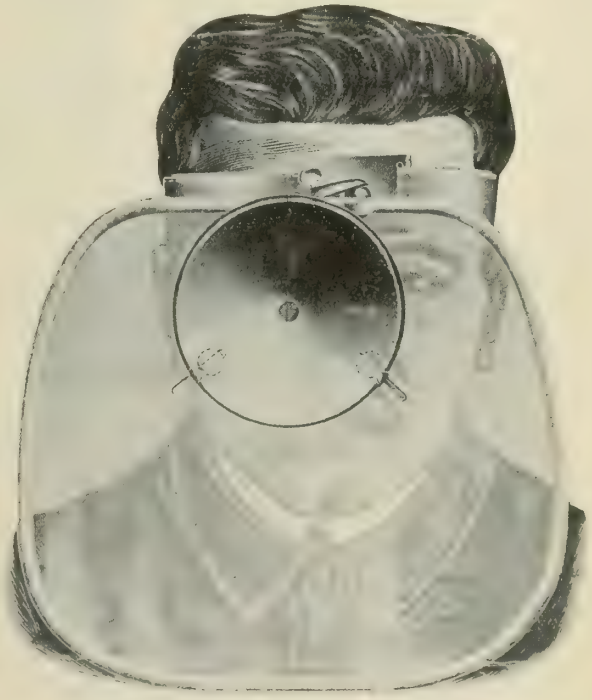
of interrupter used. Electrolytic interrupters are not practical for this class of treatment, as long exposure is necessary. The result is that, if electrolytic interrupters are used, the solution soon becomes hot, causing an uneven flow of current. The older types of mercury interrupters are somewhat better than the electrolytic form, yet most of these mercury interrupters are designed for use during a comparatively short period, and the amount of current they will deliver generally ranges from three to four amperes.

The equipment illustrated has been designed solely for therapeutic and fluoroscopic purposes. The induction coil is placed within the cabinet in a vertical position, and has an air-cooled core, so that it can be used continuously without overheating. The interrupter makes use of illuminating gas as a dialectric instead of kerosene, petroleum oil, or other oils which were formerly used. The manufacturers claim that the use of illuminating gas prevents the rapid oxidation of the mercury, which has always been a fault in mercury interrupters. It is stated that the interrupter can be used from three to four hours daily without any cleaning for at least four months, when the mercury can be easily drawn off and a fresh quantity added. The capacity of the interrupter is great enough so that from forty to fifty amperes of current at two hundred and fifty volts for intermittent service, or from ten to fifteen amperes for continual service, may be passed. When used on the alternating current, a synchronous motor is employed, doing away entirely with the rectifier, which has formerly been a necessary part of the equipment when used on alternating current.

The apparatus requires very little space, and all controlling is done from a stand which is connected to the cabinet by a flexible cable and the operator has control of his apparatus from any distance required.

A Face Protector.

Until quite recently there were few doctors who took the trouble to protect their faces when they were examining patients' throats. This was no doubt due mostly to the fact that there was no suitable apparatus on the



Cutler face protector, attached to head mirror.

market for this purpose. Those devices that were to be had were attached either to a heavy floor stand or suspended from the ceiling, and consequently not movable or not easily portable, and more or less in the way. These objections have been entirely overcome in the protective shield devised by Dr. F. N. Cutler, of Cleveland, Ohio.

As will be seen from the illustration, this shield can be attached to a head mirror. The transparent shield, which is very light in weight, has a hole through which passes

the ball on the back of the mirror and is fastened on the lower border with two sliding clamps. These clamps are sufficiently movable so that the shield may be attached to any of the standard sizes of head mirrors.

A Practical Syringe for Injecting Salvarsan and Neosalvarsan Intravenously.

SUGGESTED BY DRS. E. G. BALLINGER AND O. F. ELDER, ATLANTA, GA.

Many syringes and other devices have been invented and offered to the profession for the purpose of administering salvarsan and neosalvarsan intravenously, yet the syringe illustrated here seems to have several advantages over those now mostly in use that deserve to be more generally known. As the syringes that have been and are now used for this purpose (the Luer and the Record syringes) have a capacity of 20 cc., only medium-sized doses can be administered, and, owing to the slight dilution of the salvarsan, phlebitis will occasionally follow the injection. This new syringe, however, has a capacity of 50 cc., and is made entirely of metal and glass, without any washers whatsoever. It can be easily taken apart and rendered sterile by boiling.

The Ballenger Salvarsan syringe.

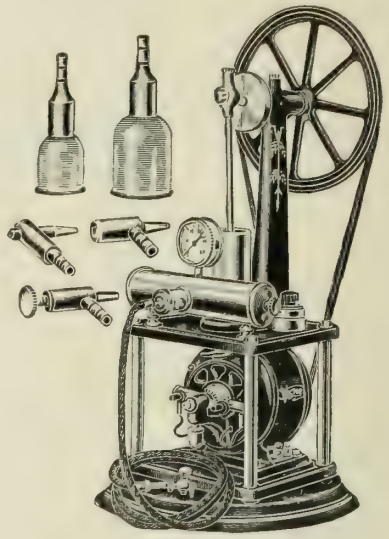
A special feature of the syringe, as will be seen by the illustration, is that the needle is attached to the edge instead of the center, and this greatly facilitates the introduction of the needle parallel with the vein. An ordinary three-quarter-inch 24-gauge Record needle is used, and while the injection is being made the syringe lies flat upon the arm of the patient, where it can be steadied. The syringe is so well constructed that the slightest traction on the piston rod draws a few drops of blood into the barrel, showing that the needle has entered the lumen of the vein.

The inventors state that since they have been using a syringe of such large capacity and diluting the salvarsan with about 50 cc. of sterile water, rendering the solution slightly alkaline, injecting it slowly, allowing blood to flow through the vein to provide further dilution, they have had no bad after-effects from the use of salvarsan.

New Portable Compressed Air Machine.

But few hospitals and sanatoriums are equipped with compressed air, which is often so convenient in the treatment of nose and throat conditions. Again, in many instances where a nose and throat treatment room is provided it often occurs that the compressed air is not sufficient, or considerable time is required to pump it into the storage tank.

It is, therefore, apparent that something in the way of a practical portable air compressor would be a great convenience, and the apparatus shown seems to fulfill every requirement. It is portable and can be easily handled by the nurse, so that the apparatus can be taken to the patient's room and connected to any ordinary socket. A high-speed motor is connected by belt to a single-cylinder compressor, the air from the compressor cylinder being pumped directly into a chamber, which permits of practically a constant flow of air. A relief valve is provided, so that any excess air above the pressure required for the work in hand will be automatically discharged, and a pressure gauge shows the air pressure which is being


Victor tankless air compressor.

delivered. As the air leaves the chamber it passes through a filter, which absorbs all dust particles, moisture, or grease. Provision is also made for producing vacuum for hyperemia, sinus drainage, or for suction of blood and mucus during operation. The motor is equipped with a fitting so that a flexible shaft for nasal drilling can be attached, or, if desired, a vibrator of the flexible shaft variety. The entire apparatus occupies a space 9x10x25 inches.

Treatment of Tuberculosis at the Iowa State Sanatorium.

An encouraging report of work in the direction of stamping out the white plague was given out recently by Dr. H. V. Scarborough, superintendent of the Iowa State Sanatorium at Oakdale. The report is given in part as follows:

Of the far advanced cases of tuberculosis which we have treated (the third or unfavorable stage) we have been able to improve 74 percent of those who stayed longer than one month. Only 15 percent of this class recovered. Of the second stage, or medium classes, we were able to improve 86 percent and to cause the recovery—that is, the arrest or apparent cure—of between 40 and 45 percent. Of the incipient or first stage cases we were able to improve 96 percent and to cause the recovery of 71 percent.

Up to July 1, 1913, there had been discharged from this institution 1,300 cases. Of this number only 241, or 18½ percent, were first stage cases on their admission. There were 730, or 56 percent, which were medium grade or moderately advanced cases, and the balance were far advanced and very unfavorable cases. In view of the fact that this institution is supposed to receive only the early and favorable cases, it will be seen that not as great results could be expected from these cases as if they had been early cases.

However, at the beginning of this year 458 of these ex-patients were at work on full time. Of the 1,300 patients, 187 were at the hospital less than one month.

While a number of patients have died after leaving the sanatorium, it is on account of the fact that we have taken many advanced cases for which there was little hope when they were received. We have not restricted ourselves to the early cases, but have kept the institution as full as we could consistent with sufficient care of patients.

DEPARTMENT *of* NURSING

Mary M. Riddle, R. N., Editor,
Superintendent Newton Hospital, Newton Lower Falls, Newton, Mass.

Annual Convention of American Nurses' Association.

BY ELIZABETH ROSS,
Delegate from Newton Hospital Nurses' Alumnæ Association.

The convention at St. Louis brought together nurses from all parts of the United States, but, as would be natural, because of the place of meeting the nurses from the Middle West states came in greater numbers than from the extreme East or West.

Thursday, the first day of the convention, was given to registration and to a meeting of the House of Delegates, where the preliminary business of the session was transacted and the reports of committees read.

The report of the treasurer showed the American Nurses' Association to be on a good business basis, and the financial report of the *American Journal of Nursing* showed an increase in the returns under its new management. The report of the Isabel Hampton Robb Scholarship Fund showed that three scholarships have been given for this year—two for Teachers' College for nurses wishing to prepare for teachers in training schools; the third for training in public health work to be received at the Boston School for Social Workers. At this meeting pledge cards were distributed to the delegates for money for the International Congress to be held in San Francisco next year, when each delegate is expected to come to the meeting instructed as to what her alumnæ is willing to contribute. At 8 o'clock a general session was held, and after the address of welcome by Mr. Robert S. Brookings, president of the corporation of Washington University, of St. Louis, the presidents of the three convening organizations each addressed the nurses, and were followed by an address by Surgeon J. O. Cobb, of the United States Public Health Service. The keynote of this meeting was service—the service which is required by the public of the nurse and her obligation to render to the public the best she is capable of giving. Dr. Cobb said that our watchword is prevention, that the nurse is breaking into the jungle of bad conditions, and that society is following and compelling better conditions and laws. He also said that training schools should be so standardized that they can demand a recognition in the educational world, even to the receiving of a degree.

Friday morning brought together, at the call of Miss Jane A. Delano, all of the Red Cross nurses. It was an inspiring sight to see the large auditorium filled to the doors with Red Cross nurses, all women trained and vouched for as women of ability and of private character above reproach, all ready to answer the call of the nation if the need arises and the dreaded calamity of war should come upon us. Miss Delano called the roll for the states, and almost every state in the Union was represented. After the roll call Miss Delano said, in substance, that now, when war seemed so near, the whole Red Cross organization was to be tested. If the call came for nurses, each state must assume its own responsibility, and send only those women on whom they could stake their lives and, that more precious possession, their honor. These women must be used to large work, so that they may be equal to the demand put on them; they must be ready to cast aside all artificiality and live only with and for the essentials. They must be willing to be inoculated with typhoid serum to protect themselves and the nation from the danger of succumbing to the dread disease, and, last of all, they must be women that every man can respect and who can never lose their womanhood. Miss Delano also instructed the heads of the state committees to be careful, in the rush of enthusiasm likely to come up at a time like this, not to lower the standards of admission, and to enroll only those who would be chosen in times of peace.

The discussion of the Red Cross uniform was amusing. Miss Gladwin served as a model and wore the chosen dress—gray-blue Japanese crepe, with white crepe collar, white apron and cap, and a sailor hat and military coat. Many of the nurses sighed at the thought of wearing this uniform, and it will take more heroism to obey this order than to take typhoid serum or to go to the front.

After the Red Cross meeting on Friday the public health nurses met to discuss matters pertaining to their special branch of the work. Miss Crandall, the executive secretary, read a report, which was received with enthusiasm and which showed a great amount of work accomplished by the central office. Papers were read on mental hygiene, tuberculosis, and industrial nursing. There were section meetings for the private nurses and the hospital nurses. All of these papers will be incorporated in the printed report, and many will be published in the *American Journal of Nursing*. The evening meeting of Friday was on the standardization of nursing education. Dr. Fred S. Murphy, of Washington University Medical School, of St. Louis, spoke of the demand on the nurse by the hospital and the public. He said the demands of science call for mental training; that the general practitioner, among the nurses as among the physicians, does most of the work, and should be well prepared. He said that the hospital gives the essentials, but takes more than it gives because of necessity. He claimed that the training which the Washington University offers is a training for a profession, but it is also the best training for the homemaker. Dr. Dock spoke on standards—how they may be sought without real gain; that the pupil is often too young to get the full benefit from her training. He said that the nursing profession would have to go through much the same weeding process as the physicians have had in order to find themselves.

Saturday's meetings were given to discussion of legislation, standards for entrance into the schools for nurses, infant welfare, and prevention of blindness. The report of the committee on infant welfare shows much that has been done toward the education of mothers in the care of infants. Miss VanBlarcom gave a general report as to what has been accomplished in the work of preventing blindness by legislation and education. This is a comparatively new work, and all reports show that about half of the blindness is preventable, only needing good laws well enforced. The Saturday night meeting was one of the most enlightening that we were privileged to attend. Mr. Frederick Hoffman, statistician, told what it means to have good records. He said that records are the soul of

the work, and only through them can your work be appreciated by others. He also said that, in searching for facts to help in research work that was being done, he found, with but two exceptions (the Johns Hopkins Hospital and the Henry Street Settlement), that all hospitals and nursing records are useless and no facts can be gathered from them. He said that the information is too bulky, and of no use even to the hospital itself in twelve months' time. He also said that all records should be kept through a calendar year, and that an institution should not begin its year any time that it may happen to start work.

Sunday was given to one general meeting and to some special round-table conferences in the evening.

Monday morning's meeting was interesting, especially in its demand for specially trained nurses for every branch of nursing. The superintendents of the training schools answer this demand by demanding better applicants, and say that they need women capable of making the most of what is offered them. At present only the largest training schools have the facilities for specialized training. Monday afternoon was given to the discussion of hospital social service, with Miss Cannon in the chair. Miss Butler, a pupil nurse of the Massachusetts General Hospital, read a most interesting paper describing her work with the social service department of that hospital and what it meant to her, a pupil nurse. Miss Cannon closed the meeting with a plea that the nurses recognize what the social worker has to give them, and that they make themselves a part of this great work of broadening our whole social outlook.

A postponed meeting on Midwifery was held on Monday, with Miss VanBlarcom in the chair. Miss Holman, of North Carolina, described in thrilling phrases the situation in rural communities. Dr. F. J. Taussig spoke on the need of the nurse midwife. Miss Noyes described the Hospital Training School for Midwives at Bellevue, New York. It was the opinion of those present that, as the midwife is here to stay for many years, it is our duty to see that she is the best that can be made, and that the natural midwife is the trained nurse.

Tuesday's meetings were devoted to a variety of subjects—the problem of the small hospital, affiliation of hospital training schools and other educational institutions, general methods of training; rural nursing, its demands and its compensations; what the Red Cross has accomplished in one year in town and rural work.

One meeting was given over to the problem of raising money for visiting nursing and to the committees on organization and administration. This last meeting was conducted by Mrs. Arthur Aldis, of Chicago, president of the Visiting Nursing Association of Chicago.

An open meeting was held on Tuesday evening to discuss civic control of public health nursing. That this work should come under civic control is the idea of the speaker. He also believes that the cost of the work would be greatly lessened, and should be paid by those who should meet the expense and not by a few wealthy people. At present our cities are not governed in a way that makes it safe to give over to the city government the control of such a vital task as conserving the public health.

Wednesday was given to all unfinished business.

About 1,500 nurses attended the convention. Over $1,262 was pledged for the San Francisco convention next year.

A fund was started for a memorial to Florence Nightingale, to be given through the American Nurses' Association next year at the International Congress at San Francisco.

Impressions of St. Louis Convention on an Outsider.

BY JOHN A. HORNSBY, M. D.

Nearly two thousand nurses met in St. Louis for the annual convention of the various nursing organizations, April 23 to 29. To a mere man observer the Planters Hotel in St. Louis seemed to hive about a million smart, well-dressed women, and they had possession of about everything in the business district of the city for the time they were there.

For a body of citizens supposed to have been in shackles to the opposite sex over a period of thousands of years, the nurses in convention at St. Louis handled themselves with marvelous dexterity, and showed not the slightest stiffness from their shackles. The preciseness of their business methods, the smooth running of their meetings, the tact and diplomacy in the conduct of their relations, showed rather a pastmastership and an intensely high development of what the politicians would call a "free and untrammeled proletariat." Even evidences of "steam rollers" and "gag rule" and "talking against time" and speaking for "buncombe" were sometimes not lacking, and yet every minute of the time every attendant at the convention was every inch a woman. They wore charming costumes as a rule. A few of them were very handsome women, nearly all of them were bright-looking, alert women bearing every evidence of culture and refinement. Their teas and receptions might have been imitated to advantage by the grand dames of society. One of the ladies in attendance, in answer to a question, said that nearly every woman present was in favor of woman suffrage.

There were no men in the convention, except an isolated few who were on the program at various times, and those with courage enough to intrude for even a short time talked only when they were given the floor as a part of the program. Men stenographers looked very helpless and subdued in those great gatherings of women. The writer of these notes attended two meetings, in both of which the rooms were packed. At one meeting there were perhaps a thousand women and at the other half as many, owing to the limitations of the assembly rooms in which the meetings were held. It was a curious spectacle for a man accustomed to large assemblages of men, or of men and women mixed, to see these great meetings entirely made up of women, with women presiding, women secretaries, groups of women on the platform, who were to take part in the meetings, women doorkeepers and ushers and sergeants-at-arms.

Then the speakers. The observer was accustomed to see women, when they spoke at all in public gatherings, observe a certain diffidence, not to say timidity. Here all that was lacking. The speakers arose promptly when called on, or, when the discussion was on and they had something to say, spoke almost always in a firm voice; stranger than all, discussed their topics as though they were born rhetoricians. Green speakers nearly always wander in their discussions, without very much sequence in their remarks. These women, when they rose to their feet, seemed to know exactly what they were going to say, had their remarks in proper sequence in their own minds, and told their stories as though public speaking were an every-day occurrence with them. That seemed to me the most wonderful thing about the St. Louis meeting—that women, most of whom could not possibly have been accustomed to speaking on their feet and in public, should be such entire masters of themselves is little short of marvelous.

The voting, too, was carried on rather differently than one would expect, who realized that women were just beginning to vote. In the election of officers a woman was stationed out in the great corridor of the parlor floor of the hotel, behind a little desk. She had before her the list of those who were entitled to vote and the ballot box, with a slot through which the ballots were deposited. All day the women came up as they found time to do so, deliberately marked their ballots, more deliberately still deposited them in the box, and then yet more deliberately walked away, as though the whole matter were a routine through which they went every day of their lives.

On the whole, the nurses' convention, to one who had never attended such a gathering before, was a revelation, and was an omen that the new citizens of this republic—for it goes without saying that women are rapidly and inevitably coming into full citizenship—will be no hindrances to progress and efficiency, and that they will take their places beside the men on just exactly an equal footing. There are those who think that women in politics will better political conditions, and there are those who advocate woman suffrage on this score alone. To me the matter doesn't appear that way. It would seem rather that women are coming into full citizenship as their just right and not because of any sentimental dream that things are to be made better or worse.

It may be invidious to name names of a few women when so many were conspicuous and prominent in the deliberations of the St. Louis meeting, but I cannot help naming a few whom it was my good fortune to meet. Miss Genevieve Cooke was there. She is president of the American Nurses' Association and hails from the sunny golden West. Whenever California goes to a convention she generally brings her atmosphere with her. Miss Cooke was no exception.

Miss Clara Noyes, as president of the League of Nursing Education, made everything move like a clock and the business went along with expedition. By the way, Miss Noyes pronounced one of the finest pieces of rhetoric in a little extempore discussion at one of the meetings. The topic was the control of training schools. Miss Noyes was really introducing a speaker, in her happy toastmaster manner, and she was telling how valuable an aid to her, in her own work, her special board of advisers was. She was telling how much they helped her, how beautifully they supported all the things that she wanted, and how they went at and secured for her things that she could not otherwise have obtained, and, with a mental wink in every word, she uttered an apostrophe to her board.

Miss Ella Phillips Crandall, executive secretary of the National Organization for Public Health Nursing, was there—very busy, but very serene. She has a great many friends in the nursing profession, and held almost a constant levee on the parlor floor of the Planters Hotel.

Miss Sara Parsons, superintendent of the training school at the Massachusetts General Hospital, was there, the busiest mortal in St. Louis during the week of the meeting.

There were Miss Edna Foley, of the Chicago Visiting Nurse Association; Miss Annie W. Goodrich, of Teachers' College; Miss Mary Wheeler, the new head of the Illinois Training School, whose work for the past year in the Cook County Hospital has brought to that disreputable old institution many improvements; Mrs. Frances Campbell, superintendent of the training school at the St. Paul City and County Hospital; Miss Elizabeth Burgess, who has done so much for nurse training in the Michael Reese Hospital, Chicago; Miss Sophronisba P. Breckinridge, of the Chicago School of Civics.

Indeed, there were so many fine women there, who were doing so many splendid things in the world of nursing, that one must beg pardon for mentioning any individuals.

To the uninformed observer the St. Louis meeting must have been productive of some splendid work; there is, of course, present at every convention an atmosphere that carries the participants along and that sometimes leads to excesses in thought and in resolution. Sometimes radical ground is occupied that the occupants would sometimes prefer not to defend after they have arrived back home and thought the thing over awhile. Let us hope this was not the case at the St. Louis meeting.

Nursing in Infancy and Childhood.

BY HENRY F. KEEVER, M. D.,

Assistant in Pediatrics Harvard Medical School; Junior Assistant Physician Children's Hospital, Boston; Assistant Physician Newton Hospital, Newton, Mass.

CONVULSIONS.

One emergency which the nurse frequently meets is convulsions. They are attacks of motor disturbance, represented by continuous rigidity or contractions of one or more groups of muscles, lasting for a variable time and usually accompanied by unconsciousness. A convulsion is a symptom and not a disease. The seat of the lesion may be in the central nervous system, the brain, or spinal cord, or it may be in the peripheral nerves—reflex convulsions. Convulsions are more apt to occur in infancy than in childhood, as there is less power of inhibition in the infant; hence convulsions in infancy are of less import than in the adult. The causes of reflex convulsions in infancy are innumerable, and as a rule they do not result seriously. They have been compared to the chill in the adult, whereas the chill in infancy is almost unknown.

Convulsions of central origin are due usually to meningitis, pneumonia, or the exanthemata. These convulsions emanate from the brain and are generally unilateral.

Reflex convulsions occur in cases where the nervous system is easily irritated, so that a nervous explosion takes place. Rhachitis, improper food, teething, and foreign bodies in the nose and ears are common causes of reflex convulsions.

TREATMENT.—Place the child in a hot bath, temperature 100° F., for five or ten minutes, so as to relieve the congestion of the brain. The precaution must always be taken that the water is not too hot. In case of doubt as to the proper temperature of the water, use a bath thermometer. If one is not available, immerse your bare arm in the tub.

An enema of hot soap suds is always good treatment, followed by a dose of castor oil as soon as the patient is out of the convulsion. In severe cases it may be necessary to use whiffs of ether.

Further treatment will depend on the cause of the convulsion. In no emergency that the nurse is called on to meet will she need more tact, coolness, and sound judgment than in cases of convulsions. The members of the family usually become nervous and excited, and it needs one steady head and hand to direct affairs.

BRONCHITIS.

Children and infants are peculiarly susceptible to bronchitis and pneumonia because of the anatomical conditions of the lungs during the early years of life. Bronchitis is an inflammation of both the large and small bronchi, and is usually secondary to some inflammatory

condition of the upper air passages. It is of frequent occurrence in pertussis and measles, and in certain disturbances of nutrition. At first the cough is dry and hard, the respirations may be slightly raised, the pulse quickened, the temperature range up to 102° F. When it goes over 102° F., then a broncho-pneumonia should be carefully watched for. After two or three days the cough softens and the temperature gradually drops.

TREATMENT.—The treatment of this condition is essentially hygienic. A warm, well-ventilated room should be selected, preferably one with a sunny exposure. The temperature of the room should range from 65° to 70° F. The value of a constant supply of fresh air is too little appreciated. In every case there should be direct communication between the sick room and the open air. Plenty of fresh air is an absolute necessity. Direct drafts over the patient should be avoided by means of screens, or sheets placed about the crib or bed. The room temperature should never register above 70° F. Everywhere we find a tendency to coddle, to overwrap, to overclothe patients. Ordinarily a medium weight flannel shirt, possibly a band if the child is accustomed to it, and the usual night dress are sufficient.

In every illness with fever the digestive capacity is considerably reduced. If the usual milk diet is continued, we are likely to have gastro-intestinal complications. In the breast-fed one to two tablespoons of boiled water (cooled) should be given before each nursing and the time allowed for nursing reduced one-third. In the bottle-fed the strength of the milk should be reduced one-third to one-half by means of water or barley water.

Children from two to four years are put on a diet of diluted milk, cereals, and broths. Feed at regular intervals. No custom is so pernicious as that of placing a glass of milk or a saucer of gruel beside the bed and have the patient take a swallow or two every few minutes. This continuous performance method tires out the stomach and brings on gastro-intestinal indigestion.

In the case of many infants who refuse food almost entirely, or take less than twenty ounces in twenty-four hours for several consecutive days, it may become necessary to give them one or several tube feedings. It is always preferable to give tube feedings by the mouth rather than the nose, so as to avoid infection of the middle ear.

Water should always be forced. When running a temperature, children lose much moisture by evaporation and this deficiency must be made up.

Steam inhalations with benzoin are often beneficial for the dyspnea. One teaspoonful of compound tincture benzoin is used to a quart of steaming water. If a croup kettle is used, the nozzle can be placed in the crib, which has previously been draped with sheets so as to make a fairly tight inclosed space. The steaming can be kept up at intervals of twenty minutes every hour. If no croup kettle is used, but only a pitcher is available, it is often possible to steam the child by placing a large umbrella over the crib, putting the steaming pitcher beneath it and allowing the child to inhale the steam. If the child is in a small, well-ventilated room, the steaming process can be continued indefinitely and the air held at the point of saturation.

The Place of Invalid Occupation in the General Hospital.

BY SUSAN E. TRACY, R. N.,

Experiment Station of Invalid Occupation, Jamaica Plains, Mass.

To the hospitals for the insane belongs the credit of first introducing systematic occupation for the patients. This was done in the beginning to offset, in part, the heavy financial burden imposed on the state. It was soon noted, however, that those patients who were employed made an appreciable physical gain, and from that time to the present work has held a prominent place in such hospitals as a purely therapeutic agent. The various sanatoriums were quick to see the application of this great principle, and the nervous invalid has been taken from the rest cure shelf and placed in the more normal environment of the occupation room. But, with all this awakening in the treatment of mental and nervous disturbances, there has existed a singularly persistent apathy in the minds of both profession and laity. The application of this most rational remedy to ordinary, every-day sick people, as found in the general hospital, is almost unknown.

The word "remedy" signified in past times a drug, usually swallowed with more or less disagreeable sensation. Today remedial treatment means much more. Electricity, massage, light-rays, exercise, hydrotherapy, mental suggestion, and many other forms of treatment must be recognized as possessing true therapeutic value. Remedies are classified according to their physiological effects as stimulants, sedatives, anesthetics, carminatives, etc. Certain occupations possess like properties. Just as the physician runs through the list of stimulants and reads—strychnin, caffein, adrenalin, or among the depressants—aconite, acetanilid, and so on—so he may read down the list of stimulating occupations—water-color painting, doll dressing, designing of costumes, paper folding, or in the sedatives—knitting, weaving, basketry, bookbinding. Making his selection from these, he turns to the nurse to order its administration. Nurses have looked to the physician for their knowledge of medicines. For years the classes have sat, starched and silent, before the doctor who should expound to them the laws of the pill and the potion. In the inauguration of the treatment by occupation there is a reversal of the ancient custom, since it devolves on the nurse to demonstrate to the doctors the remedial properties of work.

Stimulation by some carefully chosen occupation leaves the patient in better condition than does stimulation by drugs. Granting that it could be obtained, no one would question that the quiet gained through a sedative occupation would be a better quiet than that induced by bromides. Codia may dull one's pain, but it leaves a bad taste in the mouth, while pain forgotten in the painting of a spring landscape is more wisely treated. It is well to acquire the landscape habit.

The modern hospital ward consists of a double row of straight, white beds, a double row of straight, white bedside tables, and a double row of straight, white patients. When the nurse in charge looks down the lines and notes no deviations, she breathes a sign of relief and is ready for the doctors. In all this miniature street of human life there is one all-pervading suggestion—that of *illness*. Without departure from any chosen creed or adherence to so-called newer cults, all seriously minded students must recognize the fact that thought is a force. When one sees a yellow crocus pushing up through a lingering bed of snow, it signifies just one thing—the greatest of all things—life itself. So, when one bed is littered with yellow papers and another hung with skeins of pink wool, the patient in the other bed hitches up on his elbow to see what is going on next door, while the bedclothes become somewhat drifted instead of lying white and still, and the same great life pulse stirs in the ward.

Formerly occupations were thought applicable only to convalescents and certain chronic cases. Later experi-

ment has proved beyond question that this form of treatment is, many times, clearly indicated in acute conditions. No sicker patients exist than those who have been made the willing subjects of these experiments. They bear glad personal testimony to the value of remedial occupations.

An advanced case of cancer of the liver was admitted to one ward. This patient suffered from intense itching of the skin, and was at the time of admission covered with sores from scratching. She was set to work on twine bags, which could be boiled and perfectly sterilized. She seized eagerly upon the work, and by this means was kept from scratching. Her skin healed, and her great concern was how to keep her hands rightly employed on Sundays. To the last days of this patient's life she was busily engaged making hoods for some children who had to take a long, cold ride on the school wagon. She said, "I may not live many more days, but you had better bring me two skeins of gray and one of red, for I don't want to feel that I am out of work. If I cannot finish, some one else will."

No better example of the stimulating effect of judiciously chosen occupation can be given than that of a young man in the same hospital. He lay in the corner of the ward, his head wrapped in a pillow, one eye entirely gone, a large portion of the forehead also destroyed, the other eye fast following the first. For some years this condition had been present. His suffering was past telling. This man had been for years a trained seaman. It was long since he had smelled the brine. One day a few questions were asked him about sailors' knots. He responded pleasantly, and a little later a rope rug was put into his hands, which he finished. Somehow the feel of that rope stirred his blood. Before long his thought traveled back to the canvas hammocks which he made in the navy yard. A little more rope and some canvas was supplied, and before anyone realized just how it came about, this patient was sitting on the ward floor, his sail cloth, ropes and his old sailors' kit beside him, proudly stitching away, turning out hammocks, awnings, canvas bags, and rope rugs. "We notice," said the matron, "that he eats his dinner on the days that he is at work." After a little time his sight left him forever, and it seemed that he must give up a part of his work; but no, to the surprise of all he still turns out fine hammocks. These he sells at $5 each, and said the last $5 bill was "as good as a bottle full of medicine."

If it be the object to relieve pain, it must be done by some "charm." Few influences can rival color in this field. In another ward lies a woman suffering great abdominal pain, pale from many severe hemorrhages, never out of bed, eager for work. What can so weak a patient do? Water colors? She responded at once, coloring landscapes, watching the changes in the sky seen from her window for color studies. She bought a set of graded studies, and said over and over as she finished some bit of painting, "There, I forgot I had any pain." This same expression is heard again and again from many patients. The list of examples is now large, and week by week more are added. But what of the hundreds of general hospitals where no such treatment is employed? The patients wake, if they have been fortunate enough to sleep, to the consciousness of another long, weary day. Never is heard the spontaneous expression, "The time just flies the mornings we have class." This comes unsolicited from wards where the grim specter is ever present.

How shall this remedy be brought to all such needy ones? The answer is, "Through the nurses." But this will cost money. Yes, all true education costs something, but what of the drug bills? As a rule, these are O. K.'d without much question. Why not do a part of this work by more normal means? Why not substitute for the abnormal, the normal suggestion? The patient lacks the truly good things of life, color, and activity; why not invite these to minister of their abundance?

SECRETARY BOYCE MAKES STRONG APPEAL.

Urgent Reasons Why Everyone Connected With a Hospital Should Join the American Hospital Association.

Dr. H. A. Boyce, secretary of the American Hospital Association, has just issued the following strong appeal to hospital workers and thinkers to join the association:

"Organize," "deputize," and "supervise" are words which spell success in hospital management.

Many hospital workers are growing prematurely old in trying to work out problems which have already been solved by experienced hospital superintendents. The experience of these men and women is available to every member of the American Hospital Association.

Among its members may be found expert hospital administrators, financiers, architects, superintendents of nurses, and dietitians. In fact, there is no department of hospital work that has not its expert representatives in the membership of the association.

Every phase of hospital work is dealt with at the meetings. An opportunity is given the members to present their difficulties, and these are thoroughly discussed and solved, if possible, by the best men and women that the hospital world has produced.

Trustees now realize that it pays to send their officials to the meetings of the American Hospital Association. Superintendents have been able to save thousands of dollars for their boards through the knowledge gained at these meetings. No hospital administrator can afford to miss this opportunity of obtaining an up-to-the-minute knowledge of hospital management.

The small hospitals section is one of the features of the association. The discussions of this part of the convention occupy no small place in the report of the meetings. No one engaged in institution work can afford to remain outside the association.

The following extracts from the constitution and by-laws state who are eligible to membership:

Active members shall be those who at the time of their election are trustees or executive heads of hospitals.

Associate members shall be those who are executive officers of hospitals next in authority below the superintendent, contributors to or officers or members of any association the object of which is the foundation of hospitals or the promotion of the interests of organized medical charities, hospital physicians, surgeons, pathologists, and superintendents of nurses.

The annual dues of active members are $5; the dues of associate members, $2.

The next meeting of the association is to be held at St. Paul, August 25, 26, 27, and 28.

The association's special train will leave Chicago August 23, at 11:55 p. m. Mr. Bacon, Treasurer, has arranged to take the members who go this way through the large institutions in the Windy City.

You cannot do better than inclose your application, with the necessary fee, to Dr. H. A. Boyce, Secretary, Kingston, Can. Do it now. You will promptly receive a copy of the transactions of the Boston convention of last year.

REVIEWS of NEW BOOKS

The Midwife in England—Being a Study in England of the Working of the English Midwives Act of 1902. Carolyn Conant VanBlarcom, R. N., secretary of the Committee for Prevention of Blindness, State of New York, with an introduction by J. Cligton Edgar, M. D., of Cornell University, etc., December, 1913.

This study of Miss VanBlarcom is one of several excellent papers published by the New York Committee on the Prevention of Blindness, which have grown out of the facts brought to light when the agency of the ignorant and untrained midwife in the production of blindness and other diseases of children and mothers was carefully scrutinized. Facts concerning conditions in New York and other states are indisputably deplorable, but exact conditions are not known because they are nowhere recorded. How much they might be improved by the training and supervision of midwives is shown by England's experience, where the percentage of deaths among infants dropped in nine years from 151 per 1,000 in 1901 to 106 per 1,000 in 1910, and the percentage of deaths from puerperal sepsis and accidents at childbirth dropped from 4.65 per 1,000 in 1901 to 3.69 per 1,000 in 1909.

In England midwives attend about 50 percent of all births, and there are many schools where midwives can obtain excellent theoretical and practical instruction. When they are once trained, their work is carefully inspected and supervised, and, in the event of any failure to comply with the necessary regulations, their license to practice is taken away. In the United States how different. There is but a single school of high character in this country, that connected with Bellevue Hospital, with accommodations for fifty pupils. The character of the untrained women is shown by the following extract from Miss VanBlarcom's report:

"Although there are in America many competent midwives who have received careful training in European schools, reports from various parts of the country indicate that the majority of those practicing here are dirty, ignorant, and untrained. The extreme ignorance of some of the more unfit of these women is suggested by the superstitions which they foster; one, for example, will advise the mother to wear a string of bear's teeth to make the child strong; another, that in cases of tardy labor it is beneficial to throw hot coals on hen feathers and place them under the patient's bed; another, that it is flying in the face of Providence to bathe the infant before it is two or three weeks old; while others recommend that such articles as cabbage hearts, bacon rinds, beer, etc., should be included in the baby's dietary. This type of midwife knows nothing of hygiene, asepsis, or antisepsis, and is often practically responsible for the death and invalidism of mothers as well as the death, blindness, and mental and physical impairment of infants. Visits to the homes of these women fill one with dismay, for only too often one finds that a midwife with a large practice is herself a dirty, unkempt person, living in a squalid tenement. A deplorably large group is exemplified by the old woman of 80 who declared, 'I am too old to clean, too weak to wash, too blind to sew, but, thank God, I can still put my neighbors to bed.'

"Only too often the American midwife assures her patients that it is natural for babies to have sore eyes, and she prescribes such remedies as milk, lemon juice, lard, raw potato, scraped beef, saliva, etc., and when the babies go blind, she piously declares that it is the will of God."

It is thought by the author that at least 40 percent of all the births in the United States are attended by midwives. The figures presented would seem to indicate a larger number, as, for example, San Francisco, 25 percent; Omaha, 25 percent; New York, 39.2 percent; Chicago, 45 percent; Toledo, 51 percent; New Orleans, 70 percent; St. Louis, 75 percent; Alabama, 60 percent; Maryland, 40 percent; Mississippi, 80 percent; Virginia, 35 percent; North Carolina, 50 percent, and Wisconsin, 50 percent.

In this country there is little or no law to regulate the practice of midwifery. Midwives are allowed to practice without any restriction in thirteen states, and in fourteen there are no general laws relating to their training, registration, or practice. Out of the remaining twenty-one, twelve and the District of Columbia require that they shall pass an examination before receiving a license; six restrict attendance to normal cases; seven have irregular and inefficient laws; and only two, New York and Pennsylvania, have competent laws. All must agree with Miss VanBlarcom that midwives cannot be abolished or ignored. They must, on the contrary, be educated, inspected, supervised and licensed.

The data respecting the education of midwives in England are instructive and suggestive. Every lying-in institution in the United States which possesses the requisite amount of clinical material and a competent staff of physicians and nurses should undertake the work of education. The midwife should have sufficient education to enable her to attend with profit courses of instruction and practical work, covering a period of from six to twelve months. She should be examined prior to receiving the license to practice, and her work should be supervised by competent inspectors. The ignorant, uneducated women who are now midwives should be eliminated as rapidly as possible.

The chapter entitled "Early History of English Midwives" is not without interest and presents some novel facts. In England in the sixteenth century midwives were licensed by the bishops of the Catholic Church in order that they might christen children in dire necessity, but no attention seems to have been paid to their other qualification to practice. In the same century there was much complaint of the incompetence of these women, and the author deplores that the public is unmoved by similar ignorance and negligence today.

She quotes with approval Sir Percival Willoughby's ideal of the midwife in the seventeenth century. He says, "I desire that all midwives may gain a good repute, and have a happy success in all their undertakings; and that their knowledge, charity, patience, with tender compassion, may manifest their worth among their women, and give their women just cause to love, honor, and esteem them. The midwife's duty in a natural birth is no more but to attend and wait on nature, and to receive the child, and her best care will be to see that the woman and child be fittingly and decently ordered with necessary conveniences. And let midwives know that they be nature's servants. Let them always remember that gentle

proceedings (with moderate warm keeping, and having their endeavors dulcified with sweet words) will best ease and relieve and soonest deliver their labouring women."

HENRY M. HURD.

Burdett's Hospitals and Charities for 1914. Being the Year Book of Philanthropy and a Hospital Annual by Sir Henry Burdett. Price, $2.60. Published by the Scientific Press, 28 Southampton street, Strand, W. C., London.

Sir Henry Burdett's annual work needs no introduction to the hospital people. It has been coming to us for years, better and better with each succeeding edition, and containing more and ever more information. There is a list of almost all the hospitals and similar institutions in the world, with sufficient information about each to satisfy ordinary purposes; as, for instance, there are expenditure tables for the hospitals everywhere, that give a fairly accurate idea of the details of hospital expenditure in all parts of the world. There are also income tables, showing the resources of hospitals everywhere. There is in addition an immense fund of information about institutions other than hospitals, such as asylums, orphanages, homes, and various charities.

A Thousand Books for the Hospital Library. Selected by Edith Kathleen Jones, librarian of McLean Hospital, Waverley, Mass. Published and sold by the American Library Association Publishing Board, 78 East Washington street, Chicago.

This is a charming list of books in a pamphlet of fifty-six pages. Someone has remarked of Miss Jones' book list for the sick that it should be a luxury to be just sick enough to lie in bed and read the list and think about the possibilities of the books themselves. There are reference books, books on religion, social science, mythology, the sciences—astronomy, botany, zoology; books on gardening, arts, and crafts, the fine arts, the useful arts; on painting, music, sports, and pastimes; nature and outdoor books. There are books on fiction, poetry, and the drama; books on geography and travel, biographies, histories, children's books; books for every age, sex, temperament, and taste; in fact, books for every conceivable condition in life, all focused for the use of sick people.

The Junior Nurse. By Charlotte A. Brown, R. N., instructor Boston City Hospital. 12mo, cloth. Price, $1.50. Pp. 208. Illustrated. Lea & Febiger, Philadelphia and New York, 1914.

Miss Brown has most properly introduced her volume with chapters on the qualifications of a nurse. Then, having established her probationer in the hospital, she introduces her to personal hygiene, sanitation, and the simpler forms of nursing technic, such as bed-making, admission of patients, and the lighter attentions, such as feeding patients, giving them a drink, and so on. Then follow the routine duties of nursing, in theory and in practice. The chapters on bandaging, the care of emergencies, and the handling of infectious and contagious diseases are especially interesting and profitable. The illustrations are clear and helpful. Such technical operations as the giving of enemas, irrigations of various sorts, nutritive feeding per rectum, the giving of douches, catheterization, lavage, and so on; hypodermic and subcutaneous drug administration; these are all written simply and clearly. The tables of weights and measures are reduced to the simplest forms. The chapter on symptoms is especially interesting. Indications of fevers, diseases of the skin, the organs of digestion and circulation, diseases of the urinary system, and the nervous system—these are excellent. This is not only a good book for the junior nurse and the probationer, but it will prove of great value during the whole of a nurse's life.

Institution Recipes for Use in Schools, Colleges, Hospitals, and Other Institutions. Emma Smedley, superintendent of High School Luncheons, Philadelphia. 8vo. Price, $1.25. Pp. 248. Published by the author at 6 East Front street, Media, Pa.

Miss Smedley announces that the material for this book was originally prepared during her residence as instructor in dietetics at the Johns Hopkins Hospital. This is a second edition. The book contains an immense amount of valuable information, including weights and measures and their tables, menus of every description, with a chapter on the organization of the school luncheon and details of its equipment. There are brief introductory remarks under various classes of food, such as oysters, eggs, cereals, vegetables, beverages, seasoning, etc. The work should be a valuable reference book for diet schools and kitchens.

Anatomy and Physiology—A Text Book for Nurses. John Forsyth Little, M. D., assistant demonstrator of anatomy, Jefferson Medical College, Philadelphia. 12 mo, cloth. Price, $1.75. Pp. 483, with 149 engravings and 4 plates. The Nurses Text-Book Series, Lea & Febiger, Philadelphia and New York, 1914.

It is the idea of this reviewer that any text-book for nurses should go just enough into detail to give nurses what they need for application in their own profession and to give that little in a well-ordered, methodic, step-by-step manner that will bring the student logically from one subject to another, so that she may be gradually introduced to the subject rather than abruptly brought face to face with difficult problems that she is unable to grasp. Dr. Little's book comes nearer to perfection in this regard than any that this reviewer has had the good fortune to see. The text is extremely clear, the arrangement is logical and concise, beginning with a description of the human body as a whole, then into parts, thence to its chemical and physiological components; a short chapter on metabolism, the cell, its structure and functions; a description of the different tissues of the body and their cellular construction; thence to osteology, the muscles, and following this a well-illustrated chapter on the circulation of the blood, including the anatomy of the heart, the fetal circulation and the distribution. In regular sequence there is a brief study on the arteries, veins, and lymphatics, a discussion of the respiratory system, with a brief description of the physiology of respiration; the anatomy of the organs, and a brief discussion of the process of digestion, with all the topography from the lips to the lower outlet. The skin is given a good deal of attention, as well as other organs of secretion. The nervous system is adequately, though not tiresomely, discussed, including the anatomy and physiology of the brain; then follow chapters on the sympathetic nervous system and the nerves of special sense. The work proper ends with a brief, but carefully thought-out, description of the female reproductive organs, with excellent illustrations. Incidentally, it might be asked why it is that no work on nursing even mentions the fact that there are male sexual organs, and should not nurses know about both sexes if they are going to be called on to nurse both? There are tables of weights and measures following the regular matter, and an excellent glossary. Altogether, the work is a distinct contribution to the literature of nursing.

QUERIES *and* ANSWERS

The Open-Door Hospital Staff.

To the Editor of THE MODERN HOSPITAL:

I am writing you for some information regarding the customary rules and regulations for staff members of an open hospital. I am particularly interested in knowing by whom staff members are appointed, whether by the board of trustees or by self-election, and whether the appointment is for a number of years or for such time as they are considered valuable to the hospital. Who decides when a staff member is to be dropped, and what means are taken for such procedure? If you have any copies of rules governing staffs of open hospitals, I should appreciate it very much if I might have a copy.

NETTIE B. JORDAN,
Superintendent Aurora Hospital, Aurora, Ill.

The staff of a hospital is intended merely to treat free cases in the institution, unless staff members are to assume certain responsibilities aside from the treatment of patients; otherwise there would be no occasion for a staff. As these free cases have no physician of their own, and must be satisfied with the physician provided by the institution, and, as the board of directors must be responsible for the care of these people who are more or less helpless and dependent, then the board cannot waive its duty to appoint its medical staff. If there are no free cases to be considered in the hospital, then there is no good reason why there should be a hospital staff, and it would be entirely proper to allow every physician in the community, who is in good standing in his profession and whose professional and personal conduct are honorable and upright, to treat his private patients in the hospital; but he need not be on a staff for that purpose, and the hospital will fare better if those who are entitled to treat only private cases in the institution are not on the staff, because in that case all medical men can be assured that they will receive equal treatment and that there will be no favoritism.

In the event that there are free patients, the hospital board must appoint the medical staff to take care of them, and, as I say, cannot waive this duty. There is some doubt about the best conditions and the length of time for which such a staff should be appointed. If the appointment is made each year, unless there is a very definite understanding that the staff members will be displaced only for cause, there will likely be a want of interest and enthusiasm for the hospital, because men who feel that they may be dislodged in a few months will not take the same interest that they would if they felt that their places on the staff were permanent, subject to their own conduct, and on the basis of their value to the institution and not to any extraneous influences. On the other hand, if members are appointed for too long a time, they grow careless and rest on their laurels, and the hospital will suffer in that proportion.

Personally, I am under the impression that the best results are to be had if appointments are made every year, subject to a definite policy on the part of the board of trustees that changes will be made only for cause.

The Presbyterian Hospital in Chicago and a number of other excellent institutions have a clause in their staff rules providing that there shall be an age limit to the service of staff members. The Presbyterian Hospital has fixed sixty-five years as the age at which members are retired automatically, and without any action on their part or on the part of the board of trustees. In this way members who have served a long and honorable career in the institution, and whose activity is hampered by age, can be eliminated without any feeling either on their part or other members of the staff, or their friends.

A few institutions that I know fix a service limit instead of an age limit. One excellent hospital fixes the limit at twenty years, another at twenty-five, and still another at thirty. Personally, I prefer the age limit, because a man who began his service on the staff at an early age might be just at his best when he was called on to retire under the service limit.

I do not happen to have or to know about any rules governing staff members in the so-called "open-door" hospital. I think the having or not having definite rules for the conduct of the staff will depend a good deal on the organization of the institution. I have never had rules in my own institution work to govern the staff, and have depended entirely on my personal touch with the members. I have had rules for the governing of the various departments of the hospital, as, for instance, the rules for the operation of the maternity department, in the surgical operating rooms, and so on through all the services, and these rules were always created by the service men in those departments in conference with the superintendent of the hospital, and invariably I have had these department rules approved by the board of directors, so that they will have sufficient standing in the institution to compel even the men who helped to create them to obey them. If the staff in a given service were permitted to make its own rules, set them into force, and operate under them without any further procedure looking toward the authorization of the rules, they would feel they would have the right to disobey them at any time that occasion seemed to indicate; but, where the board of trustees has approved them, the superintendent of the hospital can fall back on that approval at any time and insist on their enforcement.

JOHN A. HORNSBY.

Sterilization of Rubber Gloves.

To the Editor of THE MODERN HOSPITAL:

We wish to direct an inquiry to you concerning the sterilization of rubber gloves. We would like to have a conclusion of the best authority on the subject. At present we are using the Miller glove, and frequently find them inferior and easily torn after sterilization. Whether this is due to old stock or an incorrect process of sterilization, we are not quite certain. You will do us a favor by giving us an authoritative process of sterilization, time required, degree of temperature, etc., and we thank you in advance for this favor.

ALLEGHENY GENERAL HOSPITAL,
J. K. Stage, Purchasing Agent.

Every company making or dealing in rubber gloves is likely to have faulty gloves on hand at some time, or gloves that have been kept in stock so long that they have vulcanized in such a way that stretching will tear them. I think you will find that such gloves are not confined to any one manufacturer; but every glove ought to be tested out in the hospital before it is finally accepted and put into use. The best way to test these gloves is to blow them up and look them over carefully for flat-looking spots.

These spots are just a little different in color, and they have a sort of caked appearance, which means that they are vulcanized and will break down. I think it is the fault of the person in the hospital who has to receive gloves if bad ones or defective ones are accepted, because there is hardly anything in which faults can be detected more easily.

The sterilization of gloves is something about which hospital people differ. Surgical nurses have different ways of doing it, and surgeons prescribe different methods, and, when we finally agree on a process of sterilization, we must do so in a conference made up of the surgeon who is to use the gloves, the laboratory bacteriologist, who can fix definite rules about the death point of the various harmful microorganisms, and the surgical nurse, who must develop and conduct the technical operation.

The process that I personally know most about, and which I believe to be thoroughly effective, although perhaps no better than other methods, is as follows: after use the gloves are washed in hot water and green oil soap, and afterward rinsed in clear hot water. They are then dried with a towel and powdered inside and out with the ordinary talcum. When the gloves are intended to be sterilized, they are wrapped up—say, a dozen packed together loosely—in an ordinary surgical towel, and are placed in the sterilizer, which develops a pressure of fifteen pounds, or 250 degrees Fahrenheit. Ten minutes "vacuum" is given, then twenty minutes live steam, then ten minutes "vacuum" for the purpose of drying out. The gloves are then removed from the sterilizer, under sterile conditions well known to surgical nurses, and are placed in sterile glass jars or sealed, waxed envelopes, and are kept on the rack in the surgical operating room or among the nurses' supplies until called for. I think the dry heat part of this sterilization process is bad on the gloves, and is responsible for their breaking down after five or six sterilizations, but I doubt whether there is any process that may be called an entirely "wet process," either hot water or live steam, that will insure sterilization. The hazards of reinfection in the drying-out process are too great.

JOHN A. HORNSBY.

A $30,000 PRIVATE HOSPITAL.

Every Room of La Crosse (Wis.) Institution to Be a Sun Parlor.

Dr. W. A. Henke, who formerly conducted a hospital at Tomah, Wis., has given out plans for a modern hospital building which he proposes to erect at La Crosse. The structure will be 40x80 feet, two stories, basement, and subbasement. It will be of pressed brick construction, with Bedford stone and terra-cotta trimmings. The style of architecture is unique. Seven pilasters will extend from the base on each side and will end in finials at the top of the structure. Sleeping porches at the front and rear of the building are built on piers similar in effect to the pilasters at the sides of the building.

The brick exterior will be red, the terra-cotta trimmings to match the Bedford stone, the latter to be used for purposes of sills and coping.

The entire structure will be fireproof. The floors will be of reinforced concrete, those in the patient's rooms and corridors covered with rubber matting. The stairways will be of steel with composition treads.

The first and second floors will be given to 17 patients' rooms, several of which will be large enough for two beds. The rooms will be 14 feet deep and range in width from 11 to 13 feet.

On the first floor, to the right of the entrance, will be an office and waiting room. On the second floor will be a large operating room, a sterilizing room, a wash-up room, and a small operating room. The operating and sterilizing rooms will be equipped with large skylights. The one over the large operating room will be one-half the size of the foyer. Besides the skylights in this room, large window space on two sides of the room will furnish a maximum of light.

Eight-foot wide corridors extend from the front entrance to the rear exit. An electric push button elevator is at the right of the corridor at the rear of the building. On each floor alongside the elevator shaft is a diet kitchen, with a dumb waiter traveling to the main kitchen in the basement.

The building is so arranged that each room will be practically a sun parlor. Over each patient's door and in the office will be colored lights, part of a signal system by which each patient may call the attention of a nurse. The lights can be extinguished only by opening the patients' doors.

The rooms will be finished in birch, mahogany stained and white enameled. The toilet rooms will be finished in composition. Ventilators will connect each room and toilet with the roof ventilators. Pullman ventilators will be part of each window.

The sleeping porches at the front and rear will provide room for every patient. The porches will also be able to take care of typhoid and pneumonia cases.

The basement will be given to nurses' rooms, boiler and fuel departments, laundry, kitchen and dining room. The subbasement will contain a fruit and root cellar and the elevator machinery.

A vacuum cleaning system and either a hot-water or vapor heating system will be installed.

The roof will be of tar and gravel, and at a later time may be finished with promenade tile for a roof garden. The building, when completed, will cost approximately $30,000.

Superintendent A. E. Baber, of the State Hospital for the Insane at Dayton, Ohio, has announced that a class in nature study will be formed among the patients at the hospital. The patients will be given a plot for cultivation under the direction of a trained gardener. They will also be taken on botanizing walks through the woods and fields in the neighborhood. It is believed that this intelligent and sympathetic contact with nature will not only give the patients wholesome diversion, but will have also a constructive effect on their minds, carrying them out of tendencies to morbidity to the more normal and natural interests of healthy men and women.

Mrs. D. D. MacMillan, an American woman, who has devoted several years to the upbuilding of Chelsea Hospital, London, England, is now in this country endeavoring to arouse interest in the hospital to be erected at Atlantic City, N. J., during the coming year for the treatment of children afflicted with tuberculosis of the limbs. After an extensive study of the subject, Mrs. MacMillan is of the opinion that tuberculosis of the limbs cannot be treated so successfully in institutions caring for patients afflicted with pulmonary tuberculosis as in separate hospitals, owing to the fact that their already weakened condition renders them particularly susceptible to lung involvement. She asserts that tuberculosis of the limbs is not given the attention in this country that it demands. The hospital at Atlantic City will be maintained for children coming from states east of the Mississippi River. It will be of the cottage plan, each cottage to cost $5,000, and be designed to accommodate 24 patients.

LETTERS TO THE EDITOR

Ventilation of Hospitals.

To the Editor of THE MODERN HOSPITAL:

In the April number of your journal appeared a very timely article on the mechanical ventilation of hospitals by T. J. Van der Bent. The points raised should stir up some action on the part not only of the medical profession, but also among engineers and architects. It is undoubtedly true that much diversity of opinion exists among the medical profession as to the merits of mechanical ventilation in hospitals. It occurs to me that possibly there is a reason for the stand taken by those responsible for the opposition to mechanical ventilation. I have personally noticed that those among the medical profession who oppose mechanical ventilation usually cite one of two chief reasons as the cause of their stand. One of the reasons given is the alleged fact that the mechanical ventilation system in some hospital or a number of hospitals is a flat failure; the other is that some authority in whom they have confidence is quoted as being opposed to mechanical ventilation. The first reason is a legitimate one, as there are many hospitals as well as other buildings in which, on account of certain causes, the mechanical system of ventilation is not a success. The second reason is so obviously and so closely related to the first that it is hardly necessary to discuss it.

The first objection noted against mechanical ventilation is really one which ventilation engineers, with the cooperation of the medical profession and architects, might work out. As pointed out by Mr. Van der Bent, it would be very satisfactory from a purely architectural point of view to omit all consideration of mechanical ventilation in buildings if it can be considered unnecessary. The complications which arise from the installation of a mechanical ventilation plant are extremely annoying and expensive for the architect, and frequently interfere with the most successful solution of other very desirable features. Aside from the cost of such plants themselves, they materially increase the area of a building and therefore its cost. If unnecessary, the money expended on the plant would be better spent otherwise, and the increased area of the building devoted to other purposes. In my opinion a mechanical ventilation system is a necessity for a large hospital building, and it is difficult to say where to draw the line in this connection between a large one and a small one. Under certain conditions it is impossible to remove the air from a building without resorting to mechanical means, and, unless it is removed, no fresh air will enter, either by windows or other means of access. The air entering is in exact proportion to the quantity removed. It must be removed—not transferred from one part of the building to another. For wards or other sleeping apartments it may suffice to resort to mechanical means only for removing the air, the open window being used for the entering air, and direct radiation being depended upon for heating it. Window deflectors are usually quite satisfactory for avoiding cold draughts. Where the air available from windows is dirty, charged with smoke or gas, or otherwise objectionable, the problem grows much more "mechanical." In operating rooms window ventilation is at times very objectionable. Here mechanical supply as well as exhaust is certainly advisable. In toilet rooms, work rooms, and other similar departments, mechanical supply in addition to the window ventilation is usually advisable, but mechanical exhaust is a necessity.

The question now arises as to why the mechanical system is so often a failure. I would say that, first of all, the cost of maintenance was the first cause. How many mechanical plants are there that will be found always running to the full capacity for which they were designed? Faulty design may be placed as the second cause. Neither the engineers nor the architects must be entirely blamed for faulty design. Frequently causes beyond their control make it impossible to design the plant in such a manner that all conditions are ideal. Here is where cooperation is necessary. Neither the engineers, the architects, nor members of the medical profession could alone, in all probability, make a successful hospital successfully ventilated. The situation reminds the writer of the case of a fire-protection expert's design for a self-closing fire-door. It would close satisfactorily enough in case of fire, but was practically useless for anything else. When the situation was pointed out, the answer was, "omit the door entirely, or use this one," which would not work.

VICTOR A. MATTESON,
Architect, Chicago.

ST. PAUL GETTING READY FOR VISITORS.

Dr. Ancker's Committee Promises an Enjoyable Time to Attendants on the Hospital Convention.

The Executive Committee of the American Hospital Association has sent out the following circular to members:

As you know, the annual meeting of the American Hospital Association will be held in St. Paul August 25 to 28. You are, of course, interested in the work of the association and are planning to attend.

St. Paul is making preparations to the end that all who attend this meeting will have not only the benefit of the sessions, but will be able to see one of the most beautiful cities of the country when it is at its best. You will enjoy a visit here this summer. In case you are not familiar with the city, there is inclosed a book describing and illustrating a few of its beauties and attractions.

St. Paul has been called "The City Worth Seeing," and the people of the city extend to you a cordial invitation to pay them a visit at this time, when you can combine a pleasant trip with a meeting you should under no circumstances miss.

A. B. ANCKER, Chairman.

After seven years' energetic service as director of Public Health and Charities, Philadelphia, under two administrations, Dr. Joseph S. Neff on April 30 resigned that high office. Dr. Neff suffered a severe breakdown during the latter part of the year 1913, after which he took a long vacation, but he found he was unable to continue the strain of his office on returning. His successor is Dr. Richard H. Harte, a surgeon of widespread reputation and a gentleman who is very well known in the city of Philadelphia. Dr. Harte has taken hold of his new duties with unusual energy and tact.

So much about ventilation has been heard lately that one is led to rely more on old-fashioned ideas than scientific theory. Mr. Leonard Hill points out three properties of air that have nothing to do with its chemical purity, temperature, movement, and humidity, although on physical grounds all influence mind and body. Residents of a dry, cool atmosphere are more energetic than those living in regions where the air is still, hot, and muggy. Such conditions react on the whole metabolism, aiding or hindering nutrition. Climate influences habit and character, and nose and throat complaints are often attributable to overheated rooms and offices. Movement of air cools by promoting evaporation, acting as a stimulus to the nervous system. Authorities now hold the only effective method of ventilation is by the old plan of opening a window. Mr. Hill claims the chemical purity is almost a negligible quantity, and that movement and humidity are the only points to be seriously considered.

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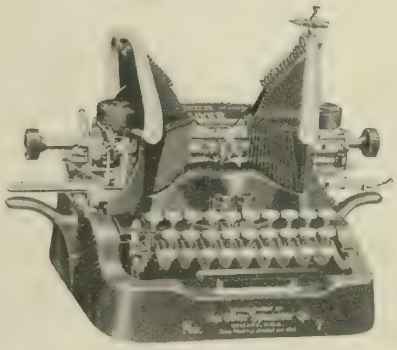

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State hospital No. 3 for the insane, at Nevada, Mo., has a dairy herd of which it has reason to be proud. During the two months of January and February the products from this herd amounted to over $2,500, not taking into consideration the increase in the value of calves fed on milk.

Mrs. B. A. Irvin is erecting a hospital at Mount Airy, N. C., near a mineral spring long famous in that part of the country. Mrs. Irvin's son, Dr. Samuel S. Irvin, of New York, a graduate of the University of Virginia, will be in charge. The institution will be open to local physicians and the general public.

At a banquet of the homeopathic physicians of Ohio, held in May, President W. O. Thompson, of the Ohio State University, outlined a plan for a state hospital on the university campus, open to all schools of medicine, and equipped to treat special forms of diseases and to work out problems for the prevention of disease.

The grounds of the new city hospital and sanitarium at Kalamazoo, Mich., are soon to have an orchard of sixty trees of various kinds of fruit. The apple trees will be grouped together, while the others will be placed about the grounds in such a way as to be ornaments to the place as well as useful fruit bearers.

Miss Lydia Keller, superintendent of Cobb Hospital at St. Paul, Minn., since it was founded sixteen years ago, has resigned and will take an extended vacation. Miss Keller is a member of the Minnesota State Board of Nurses' Examiners. She will be succeeded at the Cobb hospital by Dr. Florence Richardson, of Minneapolis.

The War Department has announced instruction camps for medical officers and noncommissioned officers of the sanitary corps and organized militia at various military posts this summer. These camps will be provided with complete regimental hospitals and infirmaries, and offer every facility for a thorough course of instruction in sanitary regulations in the field.

A tract of six acres, upon which there is a residence, has been purchased by the Providence General Hospital for $40,000. The tract is located on Wissahickon avenue, 162 feet, with a depth of 587 feet on Hermit street, 431 feet on the northeast line and 614 feet on Fairmount Park. This will provide one of the most ideal sites in the city of Philadelphia for the hospital planned.

Negro nurses are being given employment in the Kansas State Hospital at Osawatomie. All are Kansas women and are registered both at Osawatomie and Topeka, and in former years they have been cared for by white nurses. In the event the experiment at Osawatomie proves successful, it is probable that negroes will be put in charge of the negro wards at Topeka also.

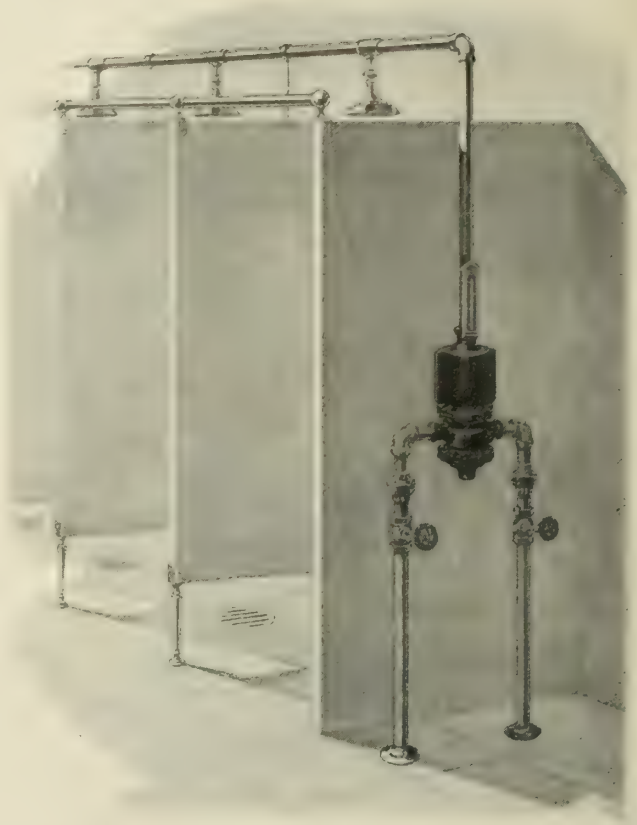
The management of the Missouri Baptist Sanitarium at St. Louis has announced that work will be begun this month on a $150,000 extension to their present building. Two-thirds of the sum to be expended was contributed by the late A. D. Brown, a wealthy shoe manufacturer, who had previously donated large sums to the sanitarium for other purposes.

The British *Medical Journal* has given an account of a public uprising in Rome coincident with a proposed alteration in hospital arrangements that met with a storm of protests. The Eternal City seemed threatened with a new war, when a satisfactory compromise restored peace. The demands made by the citizens on Roman officials may have been unwise, but their interest in hospital administration will not be without wholesome effect.

A psychopathic ward, to be supported by the state, has been established at the Philadelphia General Hospital. Persons suspected of mental disease or defects will be held at this ward for observation before being sent to the State Hospital at Norristown. It is hoped that in many cases treatment may be administered which will enable patients to return to their homes under the supervision of physicians and social workers.

It is announced from Asheville, N. C., that a $250,000 sanitarium for the treatment of tuberculosis will soon be

SAFETY FIRST



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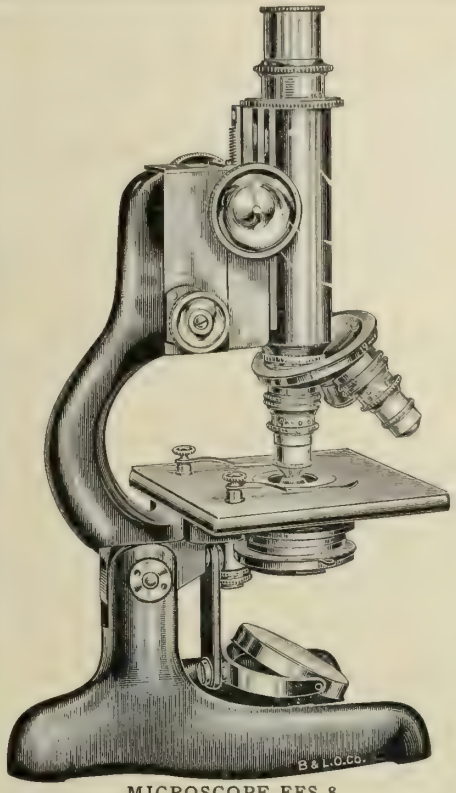

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Centuries ago the aboriginal Blackfeet Indians, gazing in awe at the eternal, glazier-capped Rockies of northwestern Montana, named this region, "Land of Shining Mountains." 1525 square miles of mountains towering above mountains. 250 lakes kiss the sky, hide in canyons of dizzy depths or nestle in pine-laden valleys.

You can tour the Park on foot, horseback, stage, automobile and launch, stopping at the Great Northern Railway's attractive chalet camps or pitching your tent where you will. Vacations, $1 to $5 per day. The new and enlarged Glacier Park Hotel, accommodating 400 people, affords every convenience.

Low Round Trip Summer Tourist Fares

Via Great Northern Railway, Daily June 1 to Sept. 30

To Glacier Park or Belton in Glacier National Park—**From St. Paul or Minneapolis, $35; from Chicago, $47.50.**

To the cities of Puget Sound and the Pacific—**From St. Paul and Minneapolis, $60; from Chicago, $72.50.**

Proportionately low fares from all other points.

Definite Expense Tours

For your convenience, the following special tours of the Park by automobile, boat, stage and horseback have been arranged for the season: **One-day tour, $8.25. Three-day tour—$21.00. Five-day tour—$31.25. Seven-day tour—$47.00.**

Descriptive Literature Free

Send the coupon for Walking Tour Book, Aeroplane Folder and other literature free. The Walking Tour Book, beautifully illustrated, contains actual experiences of persons who have toured the Park on foot.

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GREAT NORTHERN RAILWAY, St. Paul, Minn.

Panama-Pacific International Exposition, San Francisco, 1915

183

H. A. NOBLE, Gen. Pass. Agent,
Great Northern Railway,
Dept. 2, St. Paul, Minn.

Please send me Walking Tour Book, Aeroplane Folder and other descriptive literature on Glacier National Park free.

Name.....

Address.....

City.....

established near that city. The enterprise is a private one, promoted by Dr. Charles L. Minor and Dr. William L. Dunn. The institution will have a capacity of 125 to 150 patients, and it is stated that it will be conducted with a view to providing for the patients whatever accommodations they desire, regardless of how luxurious they demand that their quarters shall be.

Miss M. M. Taylor, who has been conducting the Physicians and Surgeons' Hospital at San Antonio, Tex., for the last three years under lease, has purchased the institution, the consideration being approximately $75,000. It was announced a short time ago that this hospital had been sold to the county and would be conducted as a county hospital, but the contract was later canceled, owing to protests made by the residents of the fashionable district in which the Physicians and Surgeons' Hospital is located.

A $50,000 building to serve as a chapel and amusement hall was recently completed for the Central Indiana Hospital for the Insane at Indianapolis. The building has been named Cornelius Mayer Hall in honor of Mr. Cornelius Mayer, private secretary to Dr. George F. Edenharter, superintendent of the institution. Mr. Mayer has been active for several years in directing the social work and entertainment among the inmates. The new structure is of brick, with stone trimmings, and follows the Gothic style of architecture.

St. Luke's Hospital in Cleveland is planning the erection in the near future of a $400,000 building, which, it is asserted by those supporting the undertaking, will make the institution one of the most modern and best equipped in the country. In the new hospital there will be no "charity beds." Charity patients will be treated in the semi-private wards. Increased facilities for handling maternity cases will be among the improvements, and there will be a ward in which all diseases peculiar to children will receive special attention.

On May 15 it was announced by the board of trustees of the Abingdon Memorial hospital, Philadelphia, that a gift of $2,500 for the endowment fund had been received from George W. Elkins, of Elkins Park. The gift is in memory of his wife, Stella Mackintyre Elkins. Mr. Elkins has been the donor of the entire fund in the erection of the hospital buildings, a sum in excess of $100,000.00, which is also to be given in memory of Mrs. Elkins.

Free clinics for school children are being inaugurated in Nashville, Tenn., under the supervision of the Nashville Parent-Teachers' Association, with the local school medical inspectors in charge. The clinics will be open to children of all parts of the state. It is planned to make the scope of these clinics larger than that of any other system of clinics in the South. The work at first will be limited to eye, nose, and throat diseases, but all diseases to which children are subject will finally be included.

In memory of his father, William Deering, and his sister, Mrs. Abbie Deering Howe, James Deering, of the International Harvester Company, has given $1,000,000 to Wesley Hospital, Chicago. The donation is to be invested and the income used entirely for charity. However, pauperism or mendicancy is not to be encouraged. According to the terms of the gift, the administrator of it is to be in sympathetic connection with organized charities. Buildings and the necessary equipment may be provided out of the income.

Male nurses in the Illinois state hospitals for the insane are being replaced by women, and, while the change is going on gradually, it is said that eventually few men will be retained. According to the report the State Board of Administration is convinced that women nurses have better success than men in controlling insane patients, even the most violent ones, owing to the fact that less resistance is offered women attendants. Women have already been given a try-out in the Illinois institutions as an experiment, and it is claimed that fewer patients were injured while under the care of women than under the same circumstances with men in charge. Another reason given for employing women in preference to men is that better grades of women nurses than of men can be obtained for the salaries paid.

The Ideal Heating System for Your Hospital

is a "RELIABLE" Vacuum or Vacu-Vapor System, because it is

Noiseless. No hissing radiators or hammering in the pipes.

No vapor escape, to cause a humid atmosphere in the wards. No leaky radiator valves.

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Even heat distribution, in zero or mild weather.

Instant results. Not necessary to wait until the cold air is forced out of the pipes and radiators before heating begins.

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Flexibility. The three styles of "Reliable" Systems are equally efficient for large or small plants and any style of building. Can be installed without changing piping of old systems.

These and many other advantages are thoroughly described in our "Reliable" Heating Catalog. Write for a copy of it today. Ask for Booklet "L".

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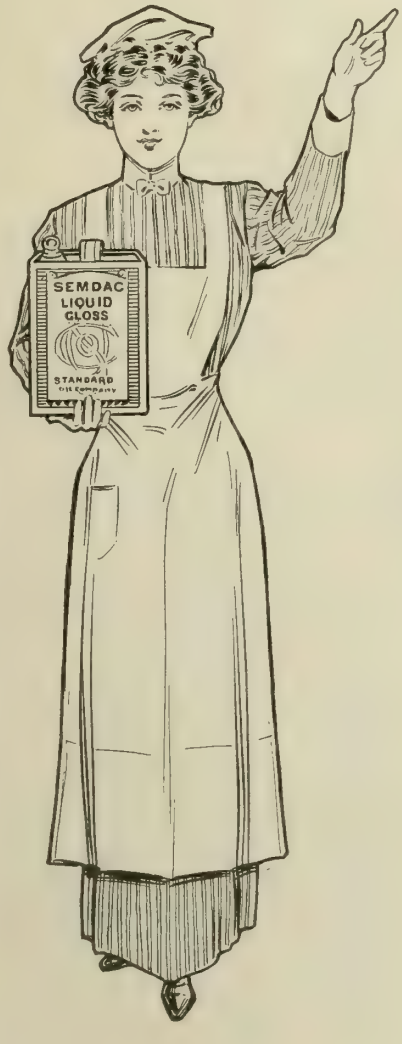
HOW TO GATHER AND NOT SCATTER
IS THE PROBLEM THAT IS SOLVED

Dust and Germs Removed at One Operation



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LIQUID GLOSS

will collect and remove dust, and will gather any germs that may be present, instead of diffusing the dust or scattering the germs.

It cleans and renovates, producing a sanitary condition wherever applied.

It is unexcelled for cleaning hardwood floors, terrazzo floors, linoleums, etc.

It is unequaled for cleaning white enameled woodwork, white iron bedsteads, and tables, fixtures, and other polished surfaces.

It is better than soap and water, and saves the time consumed in scrubbing.

It is the ideal preparation for maintaining sanitation in Hospitals and Sanatoriums.

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CLASSIFIED ADVERTISING.

Under proper headings this column will present advertisements of Positions Wanted, Help Wanted, Articles for Sale, etc.

When requested, replies will be received at the business office of THE MODERN HOSPITAL, Metropolitan Building, St. Louis, and will be forwarded promptly to the advertiser.

The charge is $1.00 for 30 words or less, and 3 cents for each additional word. For the convenience of both advertisers and publishers, classified advertisements are payable in advance.

POSITIONS WANTED.

POSITION—As matron or housekeeper by capable energetic woman; six years in large New York hospital; first-class references. Address Miss Wyatt, 5 East 40th street, New York City.

POSITION—As superintendent of hospital of 40 to 100 beds, or as supervisor of nurses, by graduate registered nurse having had wide experience in institutional work; unexceptional references. Address C. W. K., THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

POSITION—As assistant superintendent or resident physician in large hospital, preferably east of Chicago; have had experience in surgery, first aid service, and in industrial hospital work; best of references. Address J. J. D., THE MODERN HOSPITAL, Tower Building, Chicago.

POSITION—By an experienced internist as assistant to a good surgeon, or as chief intern to a large hospital; advantages as assistant operator in surgical work more desired than salary; best references. Address J. E. G., THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

POSITION—Hospital superintendent, experienced man, who is now the head of a fine institution, desires for excellent reasons to make a change; specially qualified to build up and manage the physical departments. Address Superintendent, THE MODERN HOSPITAL, 1502 Tower Building, Chicago.

POSITION—In or near large city by physician with good business and institutional experience, now assistant superintendent of large state hospital; have good, clean record and best references; present place is permanent, but for family reasons change near city desired. Address Burr, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

POSITION—As hospital dietitian; have been in charge of special diets in 500-bed hospital until recently; left for excellent reasons; can feed patients in terms of chemical constituents of food and by caloric values; am capable of working in metabolism with physicians; I teach the pupil nurses in lectures and in the kitchen; best references. Address Dietitian, THE MODERN HOSPITAL, Tower Building, Chicago.

POSITION—As superintendent of hospital; experienced man, good executive ability, for good reasons wishes to make a change; can furnish satisfactory credentials. Address U. V., THE MODERN HOSPITAL, Tower Building, Chicago.

POSITION—Competent hospital superintendent, at present engaged, for very good reasons desires change of position; young married man, practical buyer and good disciplinarian; 12 years' experience. Address Progressive, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

HELP WANTED.

NURSES—Graduate nurses desiring institutional positions. We have calls for nurses from all parts of this country. If interested in hospital positions, write us today. Aznoe's Central Registry for Nurses, 3544 Grand Boulevard, Chicago.

SUPERINTENDENT—Superintendent of nurses and principal of training school wanted for a large general hospital of the middle West; only those of experience and education considered; salary fair and position permanent if satisfactory; give full particulars and references in first letter. Address City, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

DIRECTRESS OF NURSES—An experienced directress of nurses wanted for a hospital of 160 beds; must be a good teacher and disciplinarian; duties to begin October 1, 1914. Address Training School, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

HOUSEKEEPER—A competent housekeeper wanted in a 75-bed western hospital; applicant must be a good manager and must thoroughly understand housekeeping and buying; a woman who can teach dietetics preferred. Address W. E., THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

NURSES—Nurses wanted in all parts of the United States and Canada to act as our exclusive agents for the Sellar Hypodermic Syringe and our Centrifugal Thermometer Shaker. Write us for further information and descriptive circulars. Monnier Company, 157 Federal street, Boston, Mass.

FOR SALE.

FOR SALE—Furnishings of 10-bed hospital in Pacific Northwest; monthly receipts from $350 to $700; hospital in private residence, two blocks from salt water; good position for man and wife or two competent nurses. For particulars address L 77, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

FOR SALE—An opportunity to secure a valuable mineral spring at a nominal price; location ideal for a sanitarium. Address Box 565, Norfolk, Va.

FOR SALE—Controlling interest of general hospital; best business location in Colorado; 25 beds; training school averages nine nurses; gross yearly receipts, $13,000; will sell at sacrifice on account health. Address Colorado, THE MODERN HOSPITAL, Metropolitan Building, St. Louis.

FOR SALE—Convalescent home; 13-room house, two baths, stable built to be altered into a house; surrounded by trees; house sets back 115 feet from street; one acre of land, or less if desired; convenient to trolley car lines; price moderate, terms reasonable. Apply to Wm. Q. Wales, 93 Olney street, Dorchester, Mass.

Classified advertising continued on page 40.

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Urinary Analysis, Blood, and Sputum

ALL THE LATEST IMPROVEMENTS

Arranged for either alternating or direct current.

Built from the base up in our own factory.

Starting box in base of motor.

HIGH GRADE IN MANUFACTURE
DURABLE AND EFFICIENT

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Famous No. 711 White Uniform $2.25

Made of Linen Finished Cambric

Ready-to-Wear Perfect in Fit

Conforms with your own hospital standards. Send us the name of your dealer, and let us send you on approval this

Correct Nurses' Uniform

LaMode Uniforms have been the standard for twenty-five years. They are chic, practical, durable, and economical.

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Send for illustrated folder "M," showing other models and list of materials in which they are made.

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A solution of the active principle of the posterior lobe of the Pituitary body for hypodermic use.

Pituitary Liquid is indicated in surgical shock, intestinal paresis, uremic poisoning, protracted labor, and that vast array of diseases in which the Pituitary substance has been employed with marked success.

Pituitary Liquid is put up in boxes of 6-1-c. c. ampoules. Each ampoule represents 0.2 gram of fresh posterior lobe substance.

Literature on request.

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ONE OF YOUR HOSPITAL BOARD or some other friend of the institution would be glad to donate a

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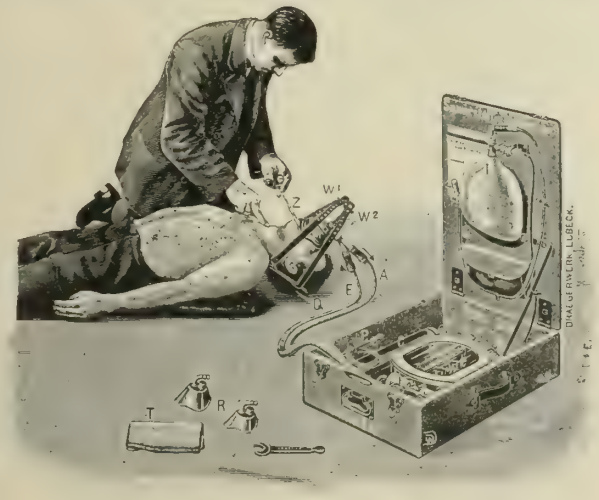

THE PULMOTOR

Made in two sizes. Regular adult Pulmotor, with three sizes of masks. Infant Pulmotor for the newborn only. The infant Pulmotor is almost indispensable for hospitals having a large number of maternity cases.

Over 500 cases on record where the Pulmotor has saved life.

It is automatic—can be operated by any of your nurses.

Full particulars on request.

if you were to acquaint him with its remarkable life-saving features.

Secure such donation promptly or invest part of your budget in this instrument, because *without the Pulmotor you are not equipped to handle collapse during anesthesia or asphyxia neonatorum.*

Can you any longer assume the hazard of not having this valuable life-saving device? The cost is very resonable, and the loss of a patient on the operating table or the failure to resuscitate any other case which would probably respond to the action of the Pulmotor would discredit your institution.

SEE OUR EXHIBIT, No. 67,
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THE DRAEGER OXYGEN APPARATUS COMPANY, 415 First Avenue, Pittsburgh

Our Pulmotor may be seen at Harvey R. Pierce Company, 1801 Chestnut Street, Philadelphia, and at The Kny-Scheerer Company, 404 West 27th Street, New York

The MODERN HOSPITAL

Published the First of Every Month by

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OTHO F. BALL, President.

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Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

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REMITTANCES.—Remittances for subscriptions should be made by check, draft, post office or express money order, or registered letter. Make all checks and money orders payable to "The Modern Hospital Publishing Company."

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ADVERTISEMENTS.—The advertising pages of THE MODERN HOSPITAL are available for announcements of anything of interest and service to those engaged in the erection, equipment, administration, and in the medical, surgical, and nursing services of hospitals, sanatoriums, and allied institutions. Advertisements of secret remedies and other objectionable announcements will not be accepted. The supervision of the Editors is extended to the advertising columns, in which only approved products and reliable manufacturers will be represented.

CLOSING OF FORMS.—Advertising forms close on the 10th for the issue of the following month. Ample time should be allowed for composition of advertisements and the sending and return of proofs.

ADVERTISING RATES.—Advertising rates will be sent on request.

CONTRIBUTIONS.—Original articles on any problems of practical interest to our readers are respectfully solicited from those who can write authoritatively on hospital architecture and equipment, institutional efficiency, and administrative medicine. Articles are accepted for publication with the understanding that they are contributed solely to THE MODERN HOSPITAL. French and German articles will be received and translated free of charge if found desirable for publication.

REPRINTS.—200 reprints of original articles will be furnished gratis to authors making the request, which request must accompany the manuscript. Covers of these and extra reprints will be furnished at cost.

ILLUSTRATIONS.—Such half-tones and zinc etchings as in the judgment of the Editors are necessary to illustrate articles will be furnished when photographs, drawings, or ink tracings are supplied by the author.

NEWS MATTER.—Our readers are requested to send in items of news, and also marked copies of newspapers containing matters of interest to those engaged in hospital work. We shall be glad to know the name of the sender in every instance.

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NEWS *of the* HOSPITALS *and* SANATORIUMS

The Carnegie Steel Company has built and equipped a hospital at Farrell, Pa.

The Bronx section of New York City is to have a new contagious disease hospital.

The Iron Mountain Railroad has arranged to open an emergency hospital at Gurdon, Ark.

A hospital will soon be erected at Mattoon, Ill., by the Odd Fellows of the state.

The county hospital at San Diego, Cal., opened a handsome new home for its nurses last month.

The State Hospital for Inebriates at Knoxville, Ia., operates a plant for manufacturing brick and building tile.

"A dime a day for thirty days" is the slogan of a campaign for funds being conducted by the Atchison (Kas.) Hospital Association.

Dr. R. C. Reimche, of Chicago, has been elected superintendent of the Chamberlain Hospital and Sanitarium at Chamberlain, S. D.

Miss Lydia Valade, of Tipton, Ia., has been appointed superintendent of the new Scott County Tuberculosis Hospital at Davenport.

An emergency hospital for railroad employees will probably be erected at LaGrande, Ore., this summer by the O.-W. R. & N. Company.

The new Southwest Hospital at Springfield, Mo., is now in operation. Miss Dora Stacy, of Kansas City, is the superintendent.

The United States Naval Hospital at Philadelphia will be in command of Rear Admiral Charles E. Stokes, former surgeon-general of the navy.

The W. C. T. U. Mountain Mission School at Hindman, Knott county, Ky., contemplates establishing a hospital to be conducted in connection with the school.

Dr. Walter List has resigned his position as physician of Longview Hospital, Cincinnati, to become assistant superintendent at the Cincinnati General Hospital.

Mr. John Reid has resigned as superintendent of the St. Margaret Memorial Hospital of Pittsburgh, Pa., after having been connected with the hospital for sixteen years.

It is reported that a hospital will soon be established at Klamath Falls, Ore., by the Sisters of St. Francis, who own 320 acres of fine land near the city.

A patients' library is being founded for the Youngstown (Ohio) City Hospital by Mrs. Fred M. Orr, who is gathering books and cataloging them for this purpose.

The Harrison Hospital, Chanute, Kas., has recently passed into the hands of L. D. Johnson and E. A. Davis, local physicians.

An army hospital is to be established in Galveston, Tex., in the event of further hostilities between the United States and Mexico. A large hotel has been tentatively arranged for.

The Grace Lutheran Sanatorium of San Antonio, Tex., formerly known as the San Antonio Tent Colony, cared for patients from twenty-four states during a period of six months ending April 30.

Miss Roma M. Lambert, of Cincinnati, has been appointed to the position of matron in the Findlay (Ohio)

Bulgarian Bacillus Mulford

(Pure living cultures of the Bulgarian Lactic Acid Bacillus)

For the treatment of intestinal fermentation, toxemia, controlling intestinal putrefaction and preventing absorption of toxic material from the intestines, and, according to Metchnikoff, preventing the tissue changes incident to senility, and for local infections. In prescribing Bulgarian Bacillus

Three points are essential:

1. Specifying the true Bulgarian Bacillus.
2. The culture must be free from other living bacteria.
3. The culture must be alive and active.

To Secure These 3 Essentials Specify Bulgarian Bacillus Mulford

This product is prepared in the most complete and modern biological laboratories, and is **the True Living Bulgarian Bacillus.** Its production is safeguarded by the same precautions taken in the preparation of the Mulford Serums and Bacterins, and **the Purity of Each Lot Is Made Certain by Careful Bacteriological Tests Before Releasing from the Laboratory.**

Cultures of Bulgarian Bacillus are furnished by our laboratories only in individual sealed tubes, as this is the **best** method for preserving vitality of the cultures and for guarding against contamination.

Bulgarian Bacillus Mulford is supplied in packages containing 20 tubes (20 doses), each package stamped with an expiration date to insure active living cultures.

It is important that fresh cultures be furnished; otherwise their efficiency is lessened and the results will be less satisfactory.

The Bulgarian Bacillus must be kept in a cool place, preferably the ice chest or refrigerator, to maintain activity.

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Home and Hospital, succeeding Miss Charlotte M. Kerans, who goes to Toledo.

A third hospital in Kentucky for the treatment of trachoma has been established by the Government at Beattyville. The other two are at Hindman, Knott county, and Hyden, Leslie county.

Miss Laura A. Slee, for the last two years superintendent of the National Homeopathic Hospital, Washington, D. C., has accepted the position of superintendent of the City Hospital at Ithaca, N. Y.

Miss Alla MacCumber, superintendent of the Little Falls (N. Y.) City Hospital, has resigned. She will be succeeded by Miss Stark, a member of the class of 1909 of the Dansville Nurses' Training School.

The Sisters of Charity have purchased at a cost of $40,000 a fine large residence in McAlester, Okla., which will be converted into a new home for Mercy Hospital, established in that city twelve years ago.

The Home for Cripples, West Philadelphia, is the beneficiary of the $40,000 estate of the late Nelson Wanamaker. It is proposed to erect a memorial building with this money.

The McMinnville (Ore.) Hospital, which was closed for some time, has been leased by Mrs. Bertha Warren and will be reopened soon. Mrs. Warren has been conducting a successful private hospital in the town.

The hospitals of Cleveland, Ohio, have formed a cooperative organization with a view to more economical administration. They will purchase supplies on the cooperative plan and establish a uniform system of accounting.

The Hospital Saturday and Sunday Association of New York City recently distributed $110,000 among forty-seven nonmunicipal hospitals in the city. This is said to be the largest annual distribution ever made by the association.

The Rhinehart Hospital at Ashland, Wis., has been purchased by St. Joseph Hospital of that place, and will be operated in conjunction with the latter institution. Dr. Rhinehart will remain as a member of the hospital staff.

The trained nurse will have something to anticipate in the coming International Congress of Nurses at the Panama Pacific International Exposition at San Francisco in 1915. There will be 6,000 delegates in attendance.

The new People's Hospital at Peru, Ill., was opened in May. The building contains two wards and 50 beds. It cost $90,000, the greater part of this sum being raised by popular subscription, social functions, etc.

Previous to the meeting of the American Medical Association in June there will be a week of complimentary clinics given in the chief hospitals of Philadelphia, which, as usual, will be free to all who care to attend them.

A unique method of securing funds was introduced in a campaign for a county hospital at Marysville, Ohio, recently. Every farmer favorably disposed toward the movement was asked to contribute his egg crop for three days.

During the year 1913 the Iowa State Hospital for Inebriates, at Knoxville, treated an average of 167 patients at a per-capita cost of 76 cents a day. The men are required to work, and are allowed wages, which are sent to their families.

Colonel G. D. Deshon, of the Medical Corps of the United States Army, who has been stationed on the Pacific coast for some time, was recently assigned to Panama, where he will have charge of the Government hospitals on the isthmus.

Dr. Leonard G. Harrington, of Independence, Mo., has been appointed superintendent of the Independence Sanitarium. Dr. Harrington has just recently returned from Australia, where he has been doing special study to prepare himself for work of this kind.

Dr. F. L. Peddicord has been appointed superintendent of the Central State Hospital at Lakeland, Ky., to succeed Dr. W. E. Gardner, who recently resigned after a long term of service. Dr. Peddicord has been first assistant at the institution for the last two years.

A $125,000 hospital, known as the Huber Memorial, has been completed at Pana, Ill. It was founded by the

Lukens Sterile Catgut

Trade (Bartlett Process) Mark

The Standard in the World's Largest Clinics

BECAUSE

It is the highest development of the catgut ligature.

It is sterile, antiseptic, supple, elastic, strong, easily seen, will not untwist in using, and is more than usually resistant to absorption.

The only iodine catgut guaranteed against deterioration.

Sizes 00-4 Plain
Sizes 00-4 Tanned

C. DEWITT LUKENS CO.
ST. LOUIS, MO., U. S. A.

All Dealers. Samples upon request.

Made only for those who appreciate and demand the Best

Samples and prices furnished to hospitals on request

Lukens Sterile Bone Wax

The best results in bone surgery are obtained when haemostasis is perfect. This is best accomplished by the use of Bone Wax, after the formula of Sir Victor Horsley.

Sterile Bone Wax in the new "Lukens Container," permits a rapid and clean application to the oozing surfaces.

Always ready for immediate use.

C. DEWITT LUKENS CO.
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All Dealers. Samples upon request.

An Announcement of Importance to Superintendents, Hospital Practitioners, and Trustees

Internal Radium Therapy on a Scientific Basis

¶ Every hospital and other institution for the care of the sick can now give its patients Radium Emanation Treatment under more favorable conditions of scientific control of dosage than has been the practice at the celebrated spas of Europe, which have so many "cures" to their credit. Carlsbad, Baden-Baden, Nauheim, Gastein, and other spas, the springs of which are noted for their beneficial effect in Rheumatism, Arthritis, Gout, etc., depend chiefly on the therapeutic virtue of radioactive water.

¶ Artificially prepared Radium Waters possess the same remarkable therapeutic virtue as the natural radioactive waters, and it has been demonstrated that, with an increased concentration of Radium Emanation, the therapeutic quantivalence is increased.

"STANDARD" RADIUM BATH WATER

¶ **Definition.**—Prepared by dissolving, in water colored with fluorescein, sufficient radium barium chloride so that each bottle of 300 cc. will contain 4.0 micrograms of radium element. This solution is sterilized, sealed, and held for a month in order that the maximum quantity of Radium Emanation may accumulate. This quantity of Radium Emanation is 4.0 microcuries (about 11,000 mache units) per bottle.

¶ **Physiological Action.**—The rationale of the physiological action of Radium Emanation is still a matter of investigation. The earlier idea of the bactericidal action has been discredited. The action is now generally believed to be the stimulating effect of the rays upon the tissues and enzymes of the body.

¶ **Therapeutic Application.**—Results obtained by many investigators demonstrate that Radium Emanation is successful in *Subacute and Chronic Arthritis, Gout, Neuritis, Neuralgia,* and in *Painful Muscular and Nerve* conditions not due to mechanical pressure. The Radium Emanation bath is particularly indicated in cases of *Insomnia,* in cases of *Arthritis Presenting Nervous Symptoms,* and certain forms of *Neuritis.*

Other Radium Preparations Especially Serviceable for Use in Hospitals:

RADIUM DRINKING WATER **RADIUM AMPULLES**
RADIUM COMPRESSES **RADIOACTIVE EARTH**

¶ These preparations are fully guaranteed as to Radium Element Content. Prescriptions filled in our Laboratories only. RADIUM SALT furnished in any purity desired.

Full literature and clinical records on request

RADIUM CHEMICAL COMPANY - PITTSBURGH, PA.

Our Radium Chloride and Radium Sulphate (Standard Chemical Co.) have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association—Journal A. M. A., January 3, 1914, page 41.

late Dr. Huber, of Pana, and will be conducted by the Sisters of Misericordia.

The report of the St. Louis City Hospital for the year ending April 13 shows that 17,044 patients received treatment at the institution, an increase of 15 percent over the preceding year. The mortality rate was 8.5 percent, as against 9.4 last year.

"Tag days," on which funds are solicited for hospitals, are common, but the Virginia Home for Incurables, of Richmond, has an annual "bell day." Everyone in the street who contributes is given a tiny bell, which insures immunity from further solicitation.

A site has been acquired for the Red Cross Building which is to be erected in Washington, D. C., by the Government as a memorial to the women of the North and South. The land lies between Seventeenth and Eighteenth streets and D and E streets, northwest.

An institution is to be established at Gastonia, N. C., for the care and treatment of diseased and crippled indigent children. It will be known as the Orthopedic Hospital of Gastonia. Some of the most prominent men of the state are among the incorporators.

Appropriations amounting to $703,000 have recently been made by the Detroit Board of Estimates for increasing the facilities of the city's hospital service. Among the improvements provided for is a tuberculosis sanatorium and also the first unit of a general hospital.

A sanitarium has been opened in Eatonton, Ga., by Mrs. Ivey Wilson, who will have the cooperation of the local physicians. Mrs. Wilson is a graduate of the Savannah Hospital, and was formerly in charge of the hospital of the G. N. and I. College at Milledgeville, Ga.

Hospital training and practical experience in the practice of medicine, surgery, and obstetrics are essential features in an examination for the Medical Corps of the Army. At least a year's experience as an intern after graduation is required of the applicant.

Many physicians and surgeons and quite a gathering of Philadelphia's society people attended the unveiling of a bronze medallion, April 15, in memory of Dr. John H. Musser, founder of the social service department of the University Hospital.

A sanatorium exclusively for tubercular women and girls has been opened in Denver. It is designed to care for working girls and women who have contracted tuberculosis and have not been able to save enough money to pay for treatment.

A hospital for criminal insane, to be erected and maintained by the state in connection with the penitentiary at Jefferson City, is among the recommendations of the special committee of the Missouri State Senate recently appointed to investigate the management of convicts.

The Daughters of Veterans have presented a bronze memorial statue to the Army Nurses of Massachusetts who served in the War between the States. It was unveiled on Lincoln's birthday, and stands in the Hall of Flags of the State House at Boston. The design is by Bela Pratt.

Several thousand trees were recently set out on the grounds surrounding St. Elizabeth's Hospital, Granite City, Ill. The officials of the hospital say that in five or six years the grounds of St. Elizabeth's will be the most beautiful among those of similar institutions of the entire state.

William Hood Dunwoody, the millionaire miller whose recent death is recorded, bequeathed $1,000,000 to the erection and support of the Dunwoody Home for Convalescents at Newton, Bucks county, Pa. The hospital is intended to perpetuate his memory, and is a tribute to his place of birth.

Many improvements are being planned for the Boston City Hospital system. Among them will be an additional story and roof garden for each of the present two-story buildings, glass walls in the corridors of the contagious disease hospital, and two new buildings for contagious cases, one of the latter being for children exclusively.

Either the hospitals of Cheyenne, Wyoming, are exceptionally efficient, or the city has been particularly fa-

ETHER PRO NARCOSI

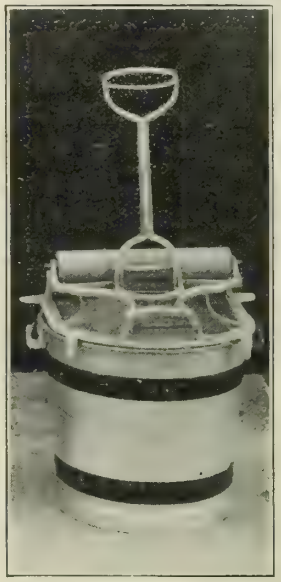
This Ether Sulphuric for anesthesia is prepared by a special process of purification by which all of the impurities that are ordinarily found in Ether are entirely removed.

Our product has a boiling point of 35° to 36° Centigrade, a specific gravity of .713 to .715 at 25° Centigrade; it leaves no residue on evaporation and will show negative results when tested for impurities.

OUR CLAIM IS THAT NO ETHER EQUAL IN PURITY HAS BEEN OFFERED TO THE MEDICAL PROFESSION UP TO THE PRESENT TIME.

ALBANY CHEMICAL COMPANY
ALBANY, N. Y.

Opie Mop Wringer



The Opie Mop Wringer is constructed of malleable iron, heavily galvanized, the most modern and practical Mop Wringer manufactured. It has no equal for Strength, Durability, Simplicity, and Speed. It is absolutely sanitary, and is positively the strongest Mop Wringer made.

And think! It weighs only **Six Pounds!** It fits any kind of bucket; wrings all kinds of mops, large or small, flat or round; makes the mop **Clean** as well as **Dry.**

You do not have to take the Wringer off the bucket to empty the water or to refill it. A child can operate it. No friction; no springs to rust; no buckets to warp!

The Opie Mop Wringer is used in the largest buildings in the country. We guarantee it to last longer than any so-called mop wringer on the market. Give it a trial and be convinced. It can be delivered to all parts of the United States by parcel post.

Manufactured only by the owners of the patents.

Sent prepaid to any hospital in the United States at trial price of $2.50 each or $6.00 for three

OPIE BRUSH COMPANY
Nineteenth and Holmes Streets KANSAS CITY, MO.

Dix-Make UNIFORMS

ARE READY FOR WEAR AND meet the requirements of the most fastidious. All nurses who would wear strictly tailored and extremely smart-looking uniforms, should insist upon having our label in the garments when buying.

They are made with the utmost care in our model, sanitary work-rooms, may be had in all sizes and are sold by reliable dealers everywhere.

Write for folder showing different styles at various prices, also for samples of materials, the name of local dealer, and any information desired.

Kindly address Dept. C

665 $4.00

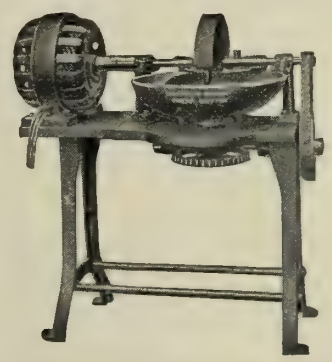
666 $3.00

Henry A. Dix & Sons Company - Dix Building - New York

The up-to-date supervisor has learned that there is no need to subject nurses to all the trouble, delay, and expense of having uniforms made to order when better made and better fitting uniforms, such as Dix-Make, are to be had ready for service.

For Finely Chopped Beef

And Many Foods that heretofore had to be Cut by Hand



No. 16 Cutter, with Motor, Direct Connected

This New Meat, Food, and Vegetable Chopper does not mash or squeeze the food.

It chops beef fine, saves the juice, and preserves all the nutritive and digestive qualities.

Most valuable machine for any hospital kitchen. Cuts fine raw meats, cooked meats, and vegetables in TWO minutes.

Worth investigating. Will ship on 30 days' trial.

Write for catalogue.

JOHN E. SMITH'S SONS CO.

Buffalo, N. Y.

Deane's Patent Eclipse

Surgical Dressing Sterilizers

present the advantages of Simplicity of Construction, Maximum Durability, and Absolute Safety — Unfailing Sterilization and Perfectly Dry Dressings Assured.

Our Eclipse Door (the "fool-proof" door, as many experts have termed it) is one of the many exclusive features of these sterilizers. Our doors have no mechanical fastenings; they may be opened or closed instantly, without effort, and they cannot be opened while there is the least pressure in the chamber; hence there is never any danger of scalding or other injuries to the operator. There are four regular sizes of this dressing sterilizer and we are prepared to make sterilizers of any size or shape, always with the Eclipse Doors.

Catalogs and quotations on request.

BRAMHALL DEANE COMPANY

259 West 36th Street New York

vored with health. A recent report of the city health officer showed that the hospitals were practically depopulated.

Mr. Odin R. Edwards, for the last four years superintendent of the Hahnemann Hospital at Philadelphia, has resigned the position, giving as his reason that ill health and advancing age were handicapping him in the performance of his duties. Dr. Clarence V. Clemm, chief resident physician, has been appointed to succeed Mr. Edwards.

The St. Louis Board of Public Improvements has advertised for bids on the erection of the first building of an isolation hospital group, which will complete a most modern and complete institution for the treatment of contagious diseases. There will be twelve buildings in the group when finally completed.

The County Hospital at Wabash, Ind., has been leased to Miss Rose Thomas, who has been superintendent of the institution for the last year, and will hereafter be privately operated. Miss Thomas is said to be a very capable woman, being a graduate registered nurse and having ten years' hospital experience to her credit.

The Philadelphia County Medical Society is soliciting subscriptions among its members for the erection of a building for its exclusive use. The committee appointed to handle this matter reports that the funds are rapidly increasing and that they will soon be in a position to purchase a site.

In an editorial in the April number, *Colorado Medicine* criticises the small number of post-mortem examinations made in American public hospitals, and suggests that it is inconceivable that a physician should maintain an intelligent interest in a case of illness to lose it when the patient is dead.

The psychopathic wards at the Philadelphia General Hospital, which are rapidly nearing completion under the direction of Dr. W. W. Hawke, have been approved by the State Board of Charities. This approval will permit the city of Philadelphia to claim $2 for every patient admitted to those wards.

Youngstown, Ohio, is to have another hospital. The building formerly occupied by the Mahoning Valley Hospital, which went out of existence two or three years ago, is to be remodeled and will be conducted as a hospital for men exclusively. It is planned to equip the institution so that all kinds of operations may be performed, and an-up-to-date laboratory will be installed.

A new colony, consisting of one family building and four cottages, will be added to the State Epileptic Village at New Castle, Ind., in the near future. The committee which recently made a tour of the eastern states in the interest of the hospital for epileptics to be established in Illinois declared the New Castle institution to be one of the best in the country.

On the night of May 15 the Philadelphia General Hospital Training School for Nurses had their graduation exercises. The principal address was made by Surgeon Charles F. Stokes, formerly surgeon general of the United States navy. The class, consisting of forty-one members, was the largest in some years. Dr. Walsh, acting chief resident physician, introduced the speakers.

The silver anniversary of the coming to Kalamazoo, Mich., of the Sisters of St. Joseph, which occurs this year, will be celebrated by the erection of a hospital group involving an expenditure of $200,000. The new structures will take the place of the Borgess Hospital, which has been conducted by the sisters since 1889. The plans for the new hospital include a special building for the free treatment of the needy poor.

Dr. and Mrs. Robert W. Long, donors of the Indiana University School of Medicine of the Robert W. Long Memorial Hospital, now being erected, have added $10,000 to the money and property formerly given by them to the state institution for the completion of the building. This brings the total of their contributions up to $260,000. The additional gift will be used to make the hospital more complete than was originally planned.

The city of Richmond, Va., has remodeled the old Virginia Hospital building and turned it into a modern mu-

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embracing the most up-to-date types, readily recognized by our registered trade-mark

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The MODERN HOSPITAL

Vol. I September, 1913 No. 1

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A New Step In Anesthesia

An anesthetic Ether should not only be of the highest purity, but it is of the utmost importance that all possibility of contamination during storage should be guarded against.

So also with Chloroform.

Ether-Baskerville and **Chloroform-Baskerville** are put up in non-soluble, anactinic glass ampoules (not tin containers) of 60 cc. (2 fluid ounces) and 120 cc. (4 fluid ounces) capacity.

They are prepared under the personal direction of Dr. Charles Baskerville, College of the City of New York, whose extensive researches on the Chemistry of Anesthetics have been published in the leading medical and chemical journals.

Ether-Baskerville contains 96% by weight of absolute ethyl ether, or ethyl oxide, and 4% by weight of absolute ethyl alcohol, and is free from the usual contaminating acetaldhyde and water.

Chloroform-Baskerville contains 99.2% by weight of absolute chloroform (chloroform free from all impurities) and 0.8% by weight of absolute ethyl alcohol (alcohol free from all impurities). It is absolutely free from contaminating water, organic impurities, and extractive matter.

The Baskerville standard for anesthetic purity is most rigid and far exceeds the requirements of the U. S. P.

LEHN & FINK
120 William Street
NEW YORK CITY

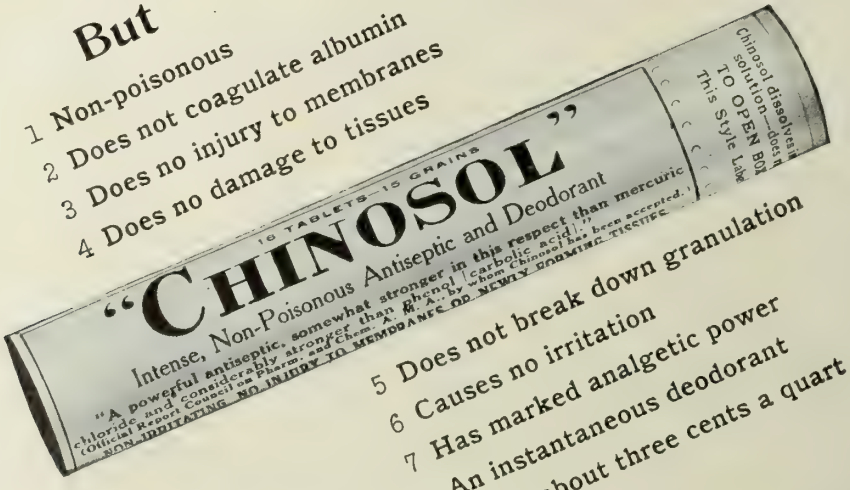
"CHINOSOL"

A MORE POWERFUL ANTISEPTIC THAN BICHLORIDE OF MERCURY, AND VERY MUCH STRONGER THAN PHENOL

INTENSE INHIBITIVE FORCE. NON POISONOUS

But

1 Non-poisonous
2 Does not coagulate albumin
3 Does no injury to membranes
4 Does no damage to tissues



5 Does not break down granulation
6 Causes no irritation
7 Has marked analgetic power
8 An instantaneous deodorant
9 Costs about three cents a quart

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Full Literature
on Request

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Vol. I October, 1913 No. 2

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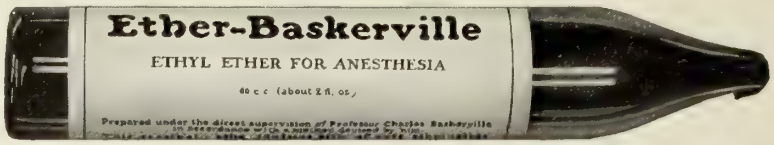
Anesthesia Without After-Effects

Coughing, suffocation, nausea, and dangerous after-effects may result from impurities in anesthetic ether and chloroform.

These ill-effects may be obviated by the use of anesthetics that are free from impurities and by improved methods of administration.



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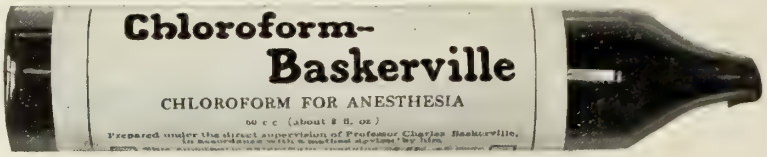

Chloroform-Baskerville contains 99.2% by weight of absolute chloroform (chloroform free from all impurities) and 0.8% by weight of absolute ethyl alcohol (alcohol free from all impurities). It is absolutely free from contaminating water, organic impurities and extractive matter.

Ether-Baskerville and **Chloroform-Baskerville** are put up in non-soluble, anactinic glass ampoules (not tin containers) of 60 cc. (2 fluid ounces) and 120 cc. (4 fluid ounces) capacity.

These products will stand the most rigid tests for purity.

We will send our interesting booklet on request.

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INTENSE INHIBITIVE FORCE. NON POISONOUS

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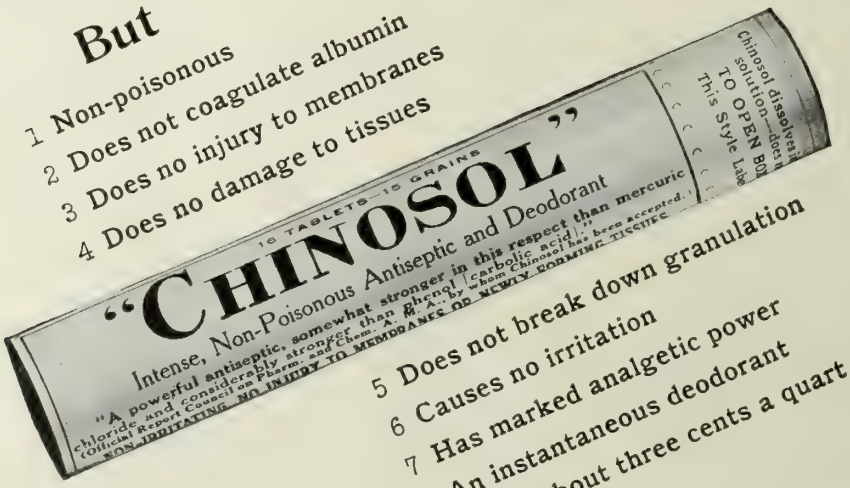

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EFFICIENCY IN ANESTHESIA

The courage and skill of the surgeon must be supplemented by an absolutely pure anesthetic.

Courage, skill, and the right anesthetic represent the highest standard in surgical efficiency.

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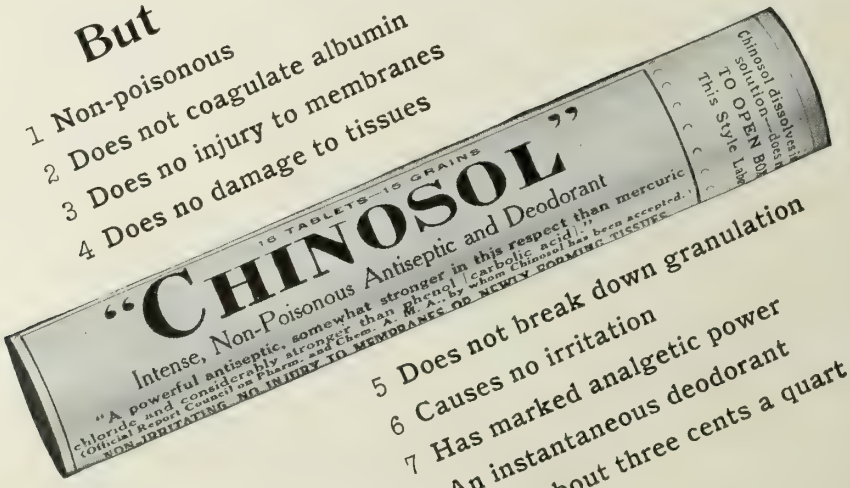

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New York, December, 1913.

Disagreeable after-effects and consequences of anesthesia have often been regarded as something quite natural and to be taken for granted.

Rarely has it occurred to anybody to question the purity of the anesthetic.

Yet it is being demonstrated today repeatedly that these after-effects may be almost completely eliminated by the use of anesthetics that are absolutely free from any traces of impurities.

Such anesthetics are Ether-Baskerville and Chloroform-Baskerville.

You will be interested in these products. Some excellent results have been obtained through their use.

We will be glad to send you our Booklet, "A New Era in Anesthetics," on request.

May we send you one?

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ITS WORK ON EARTH IS TO PRESERVE NOT DESTROY HUMAN LIFE

"CHINOSOL"
Intense, Non-Poisonous Antiseptic and Deodorant
"A powerful antiseptic, somewhat stronger in this respect than mercuric chloride and considerably stronger than phenol (carbolic acid)."
(Official Report Council on Pharm. and Chem. A. M. A.—by whom Chinosol has been accepted.)
NON-IRRITATING—NO INJURY TO MEMBRANES OR NEWLY FORMING TISSUES.
10 TABLETS 15 GRAINS
Chinosol dissolves solution—does TO OPEN BO This Style Lab

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AS A

VAGINAL DOUCHE

CHINOSOL

(Accepted by the Council on Pharm. and Chem., A. M. A.)

MORE THAN SUPPLANTS BICHLORIDE BECAUSE

CHINOSOL

IS A MORE POWERFUL ANTISEPTIC
IS POSITIVELY NON TOXIC
IS ABSOLUTELY NON IRRITATING
DOES NO DAMAGE TO MEMBRANES

If mistaken for a "headache tablet", no tragedy can result.

Sample and Full Literature on Request.

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Particularly in

VENEREAL DISEASES

The New Ointment Base

EUCERIN

Will Play An Important Part

The invaluable properties of Eucerin stand out most clearly in mercury ointment. Medical men have always displayed the highest interest in mercury ointment because of its use in syphilis. To prepare an ointment with a very high mercury content has been the aim. Efforts in this direction have been only partially successful. The discovery of Eucerin removed this difficulty. Here the disintegration of the metallic mercury is simple and rapid.

Simultaneously another important property was discovered. While inunctions made with the mercury ointment of the Pharmacopeia took about 25 to 30 minutes to be absorbed, experiments made with Eucerin ointment in several German hospitals have shown that 5 to 6 minutes were sufficient to make the mercury disappear in the skin.

Eucerin fulfills all the requirements for an ideal or perfect ointment base. It has all the advantages of the other ointment bases without any of their defects.

We will be glad to send you samples of Eucerin itself and also made up into ointments.

Your druggist will supply you with Eucerin when you prescribe it.

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Vol. II *April, 1914* No. 4

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THE NEW OINTMENT BASE

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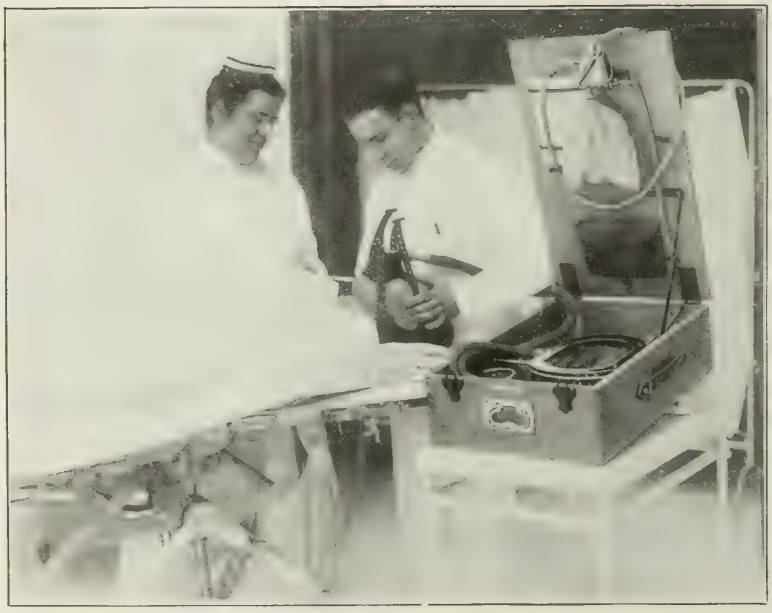
We will send you these samples on request

1. **Eucerin**
2. **Zinc Oxide Ointment**
   (With Eucerin Base)
3. **Yellow Oxide of Mercury Ointment**
   (With Eucerin Base)

Full particulars of EUCERIN sent with samples
You should know about this

LEHN & FINK **New York**

WHAT IS THE VALUE OF A HUMAN LIFE?



THE PULMOTOR

Made in two sizes. Regular adult Pulmotor, with three sizes of masks. Infant Pulmotor for the new born only. The infant Pulmotor is almost indispensable for hospitals having a large number of maternity cases.

"For a hospital not to have a Pulmotor will soon be regarded as reprehensible negligence approximating malpractice."

This statement was made recently by a hospital authority. It is a strong statement, but it was made with full knowledge of the fact that

The Pulmotor is the Resuscitative Device that will actually save life

It is automatic — can be operated by any of your nurses.

It is a scientific instrument, and its reputation is based on service performed, having saved more than 500 lives. The sale of this instrument was not promoted until its value was thoroughly established. Hundreds of hospitals and prominent physicians will back up our statements.

Can you assume the hazard of not having this life-saving instrument in your hospital?

The loss of a patient on the operating table or the failure to resuscitate any other case which would probably respond to the action of the Pulmotor would discredit your institution.

Full particulars on request.

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EUCERIN

THE NEW OINTMENT BASE

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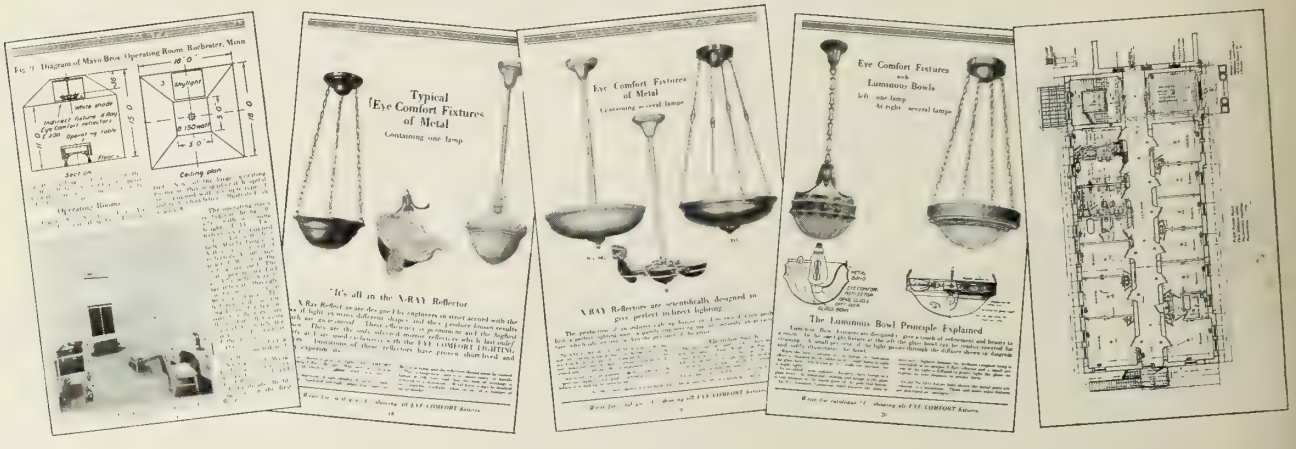
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